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THE COVER

The Roma Wine Co. (see lead article, Page 19) has speeded its conveyor movement of cartons with a saving in cost and manpower by adapting the railroads' hump-yard principle of switching cars. Utilizing this system of solenoid controls and lights, one man can channel cartons of various types and sizes along the intricate conveyor network.

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In This Issue...

FEATURES

DEPARTMENTS

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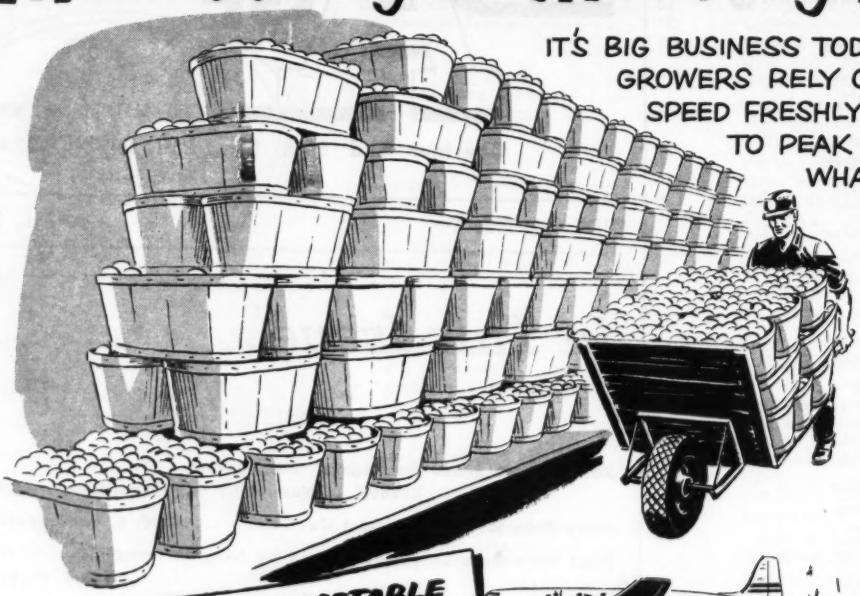

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	Pittsburgh	"	9:35
6:20	" Chicago	"	2:05
10:35	" Kansas City	"	10:15
	Phoenix		
3:35	Ar. Los Angeles		

"Big Wheel" DUE IN PHOENIX FROM MIDWEST VIA **TWA** HAD AIRPORT AGENTS HUSTLING. OUT CAME RED CARPET. JOKE ON THEM. "WHEEL" WAS 200 LBS. OF CAST IRON. HOWEVER, EVERY SHIPMENT GETS SPECIAL ATTENTION ALONG THE WAY OF **TWA**.

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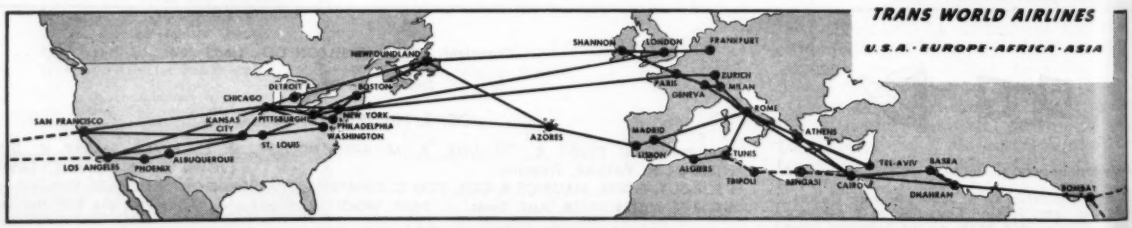

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On the Line — DA EDITORIAL COMMENT

Formula for Success—"Play Ball!"

THE commanding cry of "Play Ball" that cracks the air of expectancy and impatience at game time at a baseball park at this season has a parallel in the preparation of a publication such as this. It's not so much that a magazine also has a working team anxious to turn out creditable performance nor that it has certain star authors who will bat a high percentage of good ideas. The principal parallel, as far as this issue is concerned, lies in the term "play ball" and its meaning in daily doings.

One of the star batters presented in this month's lineup—W. J. Dernberger—points out that it is necessary for traffic managers, materials handling engineers, and packaging engineers to play as a team. This is not a new philosophy. DA has advocated it for years. But this author has prepared a chart that not only clearly defines each specialist's functions and responsibilities but, also, shows their overlap areas.

It is in the overlap areas that each man should play ball, or cooperate, for the good of the team. In his lifetime, each big league club manager has had some unpleasant experience with "grandstand players." Such prima donnas can be very costly—in game losses and team morale.

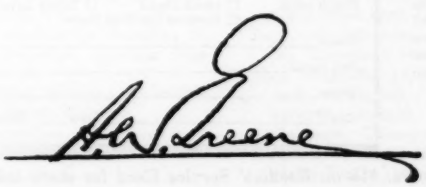
This is equally true in big league business where department heads or specialists play to the grandstand (management) and, in the process, foul up departments in whose areas they overlap.

The only trouble we can foresee is selling egocentric specialists on the fact that their specialties only are a means to a profitable end, not the end itself. Perhaps the best way that this might be accomplished is to point out how narrow and childish such sublimation of self and job is. Ask any child, even a pre-kindergarten tot, what he would like to be when he grows up. The answer—whether cop, fireman or cowboy—always covers a specialty.

There's nothing wrong with specialized training to be sure. That is the only way most people can get a job these days. But do you know of any top executive who is a specialist?—in business or industry, we mean. The top men in business or industry we know are broad thinkers. Their knowledge and experience goes beyond any single specialty.

Oh yes, many started their careers in some special field of activity—such as selling, engineering or finance—but by cooperating with other specialists, they outgrew their specialized functions and acquired others; using each as a stepping stone to success. Today, their "specialty" is coordinating the functions of specialists—production managers, sales managers, traffic managers, and the many others a sizable going concern needs.

The article on Page 34 not only provides good information on how specialists may work together harmoniously, it also is a basic formula for personal success. Good teamwork on overlap areas not only could win the "most valuable player" award, it could lead to winning the manager's job. Let's get started: Play Ball!



MEN

IN THE NEWS

Materials Handling

Carl W. Tuohey has been appointed representative of the Frank O. Hough Co., Libertyville, Ill., in the sales district comprising New York State, New Jersey, Pennsylvania, Virginia, Delaware, West Virginia and New England.

James Tinlin has been appointed New York City branch manager of the Philadelphia Division of the Yale & Towne Manufacturing Co.

Walter J. Dahl has been appointed to the sales engineering staff of the Baker Industrial Truck Co. of Iliana, Chicago area distributor of The Baker-Raulang Co. of Cleveland.

J. M. Johnson (left) has been appointed sales manager of the Transporter division of the Automatic Transportation Co., Chicago. **Foster M. Lamb** (right) has been named general sales manager for Automatic.

Angus M. Brown has been appointed manager of commercial sales by Lamson Corp., Syracuse, N. Y.

J. R. Steelman was elected president and **E. A. Drugger** was named vice president and general manager at the annual meeting of the board of directors of Koehring Co., Milwaukee.

W. E. Todd of Cincinnati has been appointed Southern Manager for the Pre-Engineered Division of Mechanical Handling Systems, Inc., Detroit.

Newton Brungart and **George Jennings** of Birmingham, Ala., have been appointed exclusive dealers of the Hyster Co. line of lift trucks, mobile cranes, turret trucks and straddle trucks in the Alabama area.

(Please Turn to Page 13)

CHUTING THE NEWS

Twenty-two transportation men from 11 Western European nations are making first-hand study of the workings of ICC, hoping to improve inland transportation in Western Europe.

DTA Transport Claims

Defense Transport Administrator Knudson has announced that third quarter 1952 programs for transportation, warehousing and port facilities have been fully documented and forwarded to the DPA.

In railway transport, DTA has made third quarter claims for 30,000 freight cars, 3,350 tank cars, and 975 locomotives; in highway transportation, 16,000 truck trailers and 96,000 truck bodies; and in inland waterways, 300 barges and rowboats.

DTA has made third quarter claims for 120,000 tons of steel in construction for railroads, transit companies, highway terminals and warehousing and port facilities.

Diesel engines in 1951 handled 52.6 per cent of railroad freight gross ton miles—first time that diesel handling has exceeded amount handled by all other types motive power.

Pay 'Em More

Roy Fruehauf, president of Fruehauf Trailer Co., has proposed increased pay for highway engineers as one answer to the nation's anticipated highway improvement program. Fruehauf pointed up the shortage of competent road engineers and the fact that some are paid as little as $30 a week, in an article in a national news magazine.

MHI "On Location"

The Material Handling Institute will also go "on location" in its work with industrial leaders as well as plan and moderate the material handling conferences related to current problems in the field.

(The full report of the first MHI Industry Service Conference appears elsewhere in this issue; please see Table of Contents, Page 3.)

The field branch of Industry Service will make information available to technical and business publications related to the material handling field and sponsor local conferences in industrial cities between representatives from each city's leading industries and an itinerant team of authorities versed in the economic, administrative and technological aspects of material handling.

The service plan will also provide a speaker's bureau for presentation of material handling information before trade and business associations and technical societies, and make available reports and surveys for wide distribution to industrial leadership groups.

Forty officers from the military's packaging and procurements divisions are taking a refresher course in modern packaging and materials handling at Naval Supply School, Bayonne, N. J.

Acme Backs MH Center

A donation of $5,000 to a building fund for a Materials Management Center at Wayne University, Detroit, has been made by the Acme Steel Products Division of Acme Steel Co.

The Material Handling Institute, Inc., The American Material Handling Society, The American Society of Mechanical Engineers and The Society of Industrial Packaging and Materials Handling Engineers are joint sponsors of the nation-wide drive which has a goal of $375,000.

(*Please Turn Page*)

Coming Events

April 27-30—United States Wholesale Grocers' Assn., 60th anniversary convention and exposition, Conrad Hilton Hotel, Chicago, Ill.

May 2-4—Refrigeration Research Foundation, annual meeting, Roosevelt Hotel, New Orleans, La.

May 3—American Chain of Warehouses, Inc., 41st annual meeting, Roosevelt Hotel, New Orleans, La.

May 4-8—American Warehousemen's Assn., convention, Roosevelt Hotel, New Orleans, La.

May 6-8—Fourth Highway Transportation Congress, Mayflower Hotel, Washington, D. C.

May 6-23—Fifth Foreign Transportation, sponsored by the National Federation of American Shipping, The American University, Washington, D. C.

May 12-16—American Trucking Assn's Trucking Operation Forum, Columbus, Ohio.

May 31-June 4—National Freight Traffic Assn., spring meeting, Greenbrier, White Sulphur Springs, W. Va.

June 4-14—Third Mechanical Handling Exhibition and Convention, Olympia, London, England.

June 16-20—Industrial Finishing Exposition, Conrad Hilton Hotel, Chicago.

June 23-26 — Canadian Warehousemen's Assn., annual convention, Hotel Vancouver, Vancouver, B. C.

June 29-July 2—Material Handling Institute, mid-year industry meeting, Grand Hotel, Mackinac Island, Mich. All materials handling industries are invited to attend.

Aug. 12-14—Fourth Western Packaging and Materials Handling Exposition, Shrine Convention Hall, Los Angeles, Calif.

Sept. 18—Material Handling Inst., meeting, Cleveland Hotel, Cleveland, Ohio.

Oct. 14-16—Society of Industrial Packaging and Materials Handling Engineers, seventh annual exposition, Chicago Coliseum, Chicago, Ill.

Dec. 18—Material Handling Inst., meeting, Hotel Statler, New York, N. Y.

Chuting the NEWS

(Continued from Preceding Page)

Railroads Granted Rate Increases; Expect $678 Million Added Income

Estimates of increased railroad revenues due to the new freight rates vary from the $678 million figure of the industry to the $704 million estimate by the Department of Commerce.

The New York Central system, which is second to the Pennsylvania in annual revenues, figured that the six per cent rate rise, effective in the East, would add some $35 million to its revenues; the Pennsylvania expected an increase of $26 million this year.

Other anticipated figures were: Sante Fe, $30 million; Illinois Central, $18 million; Chicago, Milwaukee, St. Paul and Pacific, $13 million; Burlington, $11 million; Chesapeake and Ohio, $10 million; and Erie, $6 million.

All estimates were based on the assumption that the new rates would go into effect May 1. The rate increases, which have brought the nation-wide increase to 15 per cent since last March, called for a nine per cent increase in the South and West and a six per cent increase in the East.

Standardized Parts

The military departments have started a project to standardize industrial gasoline engines to ease interchanging of parts regardless of engine makes. So far, they have replaced 1,187 different commercial parts with 59 standardized parts.

Oppose Air Subsidies

The Chamber of Commerce has supported the charge of railroad and trucking interests that the airlines have reached a point of maturity and no longer need subsidies. The Chamber feels that the air carriers should not be considered as a "new mode" of transportation, to be developed, if they have reached the position of self-sufficiency.

Truckers Want Increase

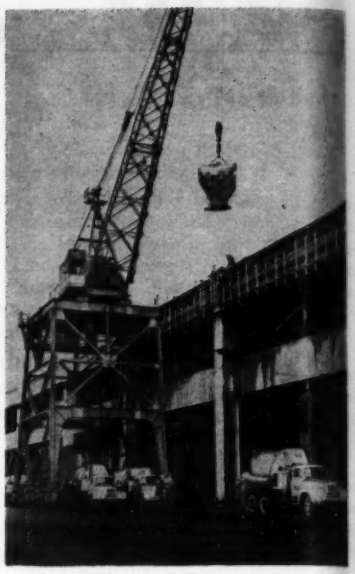
Truckers are seeking higher freight rates to help offset recent boosts in pay for drivers.

Some highway carriers claim that operating costs are up as much as 28% because of the wage increases. The general wish is for a 15% increase from the ICC.

Yale & Towne Expands

In a move to extend its materials handling equipment and hardware interests internationally, Yale & Towne Mfg. Co. has set up a Research and Development division which will coordinate those activities in the company's eight manufacturing divisions.

C. W. Meldram addresses First Atlantic Regional Conference "Work Seminar" of The American Material Handling Society. The seminar, limited to 12 active participants, discussed MH problems of the various industries represented.



International LF-192 trucks equipped with concrete mixer bodies give the truck industry a major role in building Seattle's Alaskan Way viaduct, largest municipal reinforced concrete job in the city's history. Cranes, mounted on Gantry frames, hoist bucketed concrete to project level.

P.O. Saves $4.7 Million

The U. S. Post Office's program of using trucks for shorter mail hauls effected a saving of $4.7 million in 1951. Although the idea was proposed in the mid-1930's, the trucks were not used until last year. There are already 201 of the shorter routes which are being served in this way

The Wirebound Box Manufacturers announce that their industry, serving both industry and agriculture, is now a $100 million a year business.

Truckers Seek Surcharge

Interstate motor carriers, represented by four tariff bureaus covering eastern, central and middle Atlantic states, have asked ICC permission to add a surcharge to their freight rates on cargo going through New York state to offset the state's ton-mile tax.

The carriers, with the blessing of the NITL, charge that the state already has authorized intra-state carriers to add the surcharge. A $5 million tax bill has accumulated since the law was enacted.

An over-all view of the 21st A.M.A. National Packaging Exposition which attracted 21,500 industry representatives to Convention Hall, Atlantic City, N. J.

21st Packaging Conference Breaks All Records

The 21st Annual AMA National Packaging Exposition, held the first week of April in Atlantic City, N. J., was packed to overflowing with the latest developments in packaging materials, methods, machinery, equipment and services.

Lawrence A. Appley, president of the American Management Association, described the show at Convention Hall as "the largest, most inclusive and most successful in the entire history of the event."

Attendance reached an all-time record of 21,500 representatives of every type industry.

Thirty speakers drew capacity attendance at the Conference sessions. The majority of speakers used slides and motion pictures to illustrate the talks. Interest from the floor, as indicated by the number of questions asked, was so great that most of the speakers were obliged to remain after the sessions to supply requested information.

Copper Picture Brighter

Expansion goals for copper, to provide 2,270,000 tons in 1955, can be compared to the 1,914,000 tons of 1951. Jess Larson, DMPA Administrator, announced that the new goal will be met through the current policy of buying copper at over-the-ceiling prices in order to keep the precious metal in production.

There will be plenty of plastics throughout 1952 to ease possible metal shortages. Producers predict 10 per cent output over 1951 with 2,600 million lb.

New OPS Ruling

Charges for services supplied directly by governmental units in the operation of terminal, dock and warehouse facilities have been exempted from ceiling price regulations by OPS. The new ruling, effective March 26, applies to services supplied directly by Federal, State and local governmental agencies.

Mechanical trimmers that will cut manual handling and boost grain loading from 3,000 to 11,000 bushels per hour have been installed at the loading piers of the B & O's Baltimore terminal.

MEN IN THE NEWS

Charles N. Sunwalt has been named regional vice president in charge of sales for eastern United States for The Baker-Raulang Co., Cleveland.

Arthur Templeton has been appointed Southwestern divisional sales engineer for Templeton, Kenly & Co., Chicago.

W. C. Robertson has been named vice president in charge of government sales and regulations by Gar Wood Industries, Wayne, Mich. **W. A. Glimn** has been appointed director of purchases for the company.

Otto Svoboda has been named sales manager of the E. W. Buschman Co., Cleveland.

Henry Cunningham has been appointed Western New England territory manager by Cory Corp., Chicago.

William H. Mathers (left) member of a New York law firm, and **Elmer F. Twyman,** vice president in charge of the Philadelphia division of Yale & Towne, have been elected new directors of the Yale & Towne Manufacturing Co.

Earl D. Hoyt has been added as a field engineer to the Dallas technical staff of The Lamson Corp., Syracuse, N. Y.

A. C. McGeath, American Box Board Co., Chicago, has been appointed a vice president of the Society of Industrial Packaging and Materials Handling Engineers.

Virgil P. Burgess has been appointed controller and acting secretary-treasurer of Morse Chain Co., a division of Borg-Warner Corp., Chicago.

Clinton H. Vescelius has been appointed general traffic manager for Otis Elevator Co., New York.

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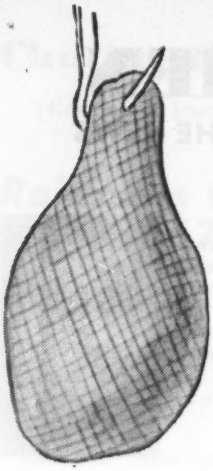
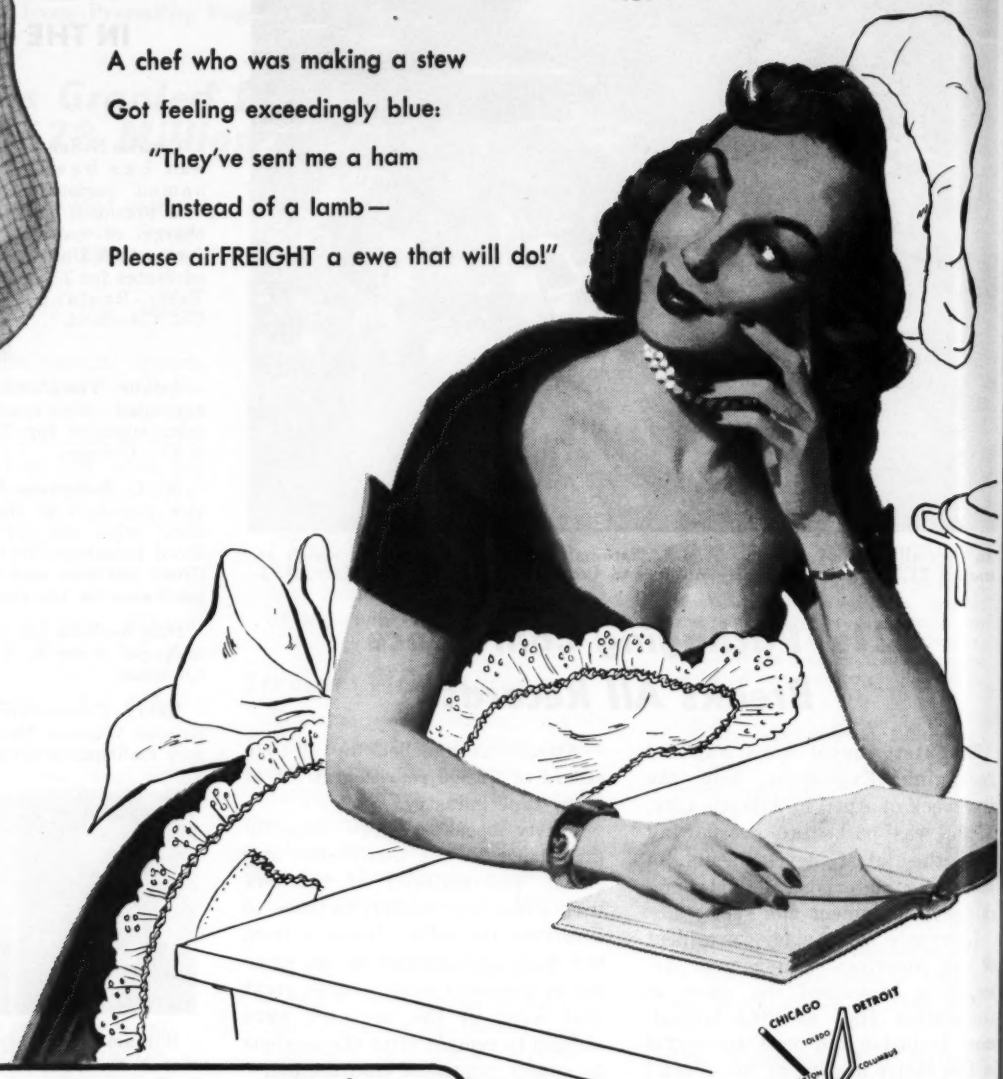


A chef who was making a stew
Got feeling exceedingly blue:
"They've sent me a ham
Instead of a lamb—
Please airFREIGHT a ewe that will do!"



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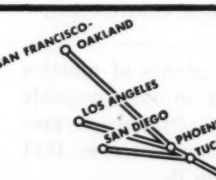
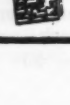


Typical rates per 100 lbs.

CHICAGO-MIAMI	$12.30	CINCINNATI-SHREVEPORT	$7.62
DALLAS-ATLANTA	8.00	FT. WORTH-NEW ORLEANS	4.59



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Washington DA

By Karl Rannells, *Washington News Bureau*

Terminal Expansion A minimum of about 285 new freight terminals and expanded space in at least 125 existing warehouses will be needed this year to handle the growing volume of production handled by motor freight. This estimate is the result of a survey made by the American Trucking Associations, Inc., and has been submitted to Defense Transport Administration for use in figuring out 1952 recommendations for construction facilities for freight handling.

Stated in another way, terminal facilities for handling highway freight must be boosted this year by at least another 3,300,000 sq ft of floor space if the job is to be done adequately. Present costs currently figure out at about $15 per sq ft. This means industrial expenditure of around $50,000,000 if the control agencies authorize the construction and materials.

Distribution Outlook A further note of optimism for distribution industries was in the air in early March when National Production Authority put out a revamped version of controls over commercial and industrial construction. In addition to slightly increasing the self-certified materials ceiling, specific dollar limits were placed on the amount of construction and equipment which could be obtained with ratings.

Builders of factories and other industrial plants were to be permitted to write their own ratings for purchases of up to $100,000 worth of steam shovels, dozers, concrete mixers, and other construction equipment. Also, purchases of up to $200,000 worth of machine tools, conveyors, and such other equipment including materials handling, necessary to factory production could be self-certified.

At the same time, builders of commercial projects such as warehouses, garages, offices, stores, and so on, were to be permitted to write their own certifications for five tons of steel, including two tons of structurals but no wide flange, and 200 lb of copper.

Second Quarter Metal Allotment Softening of demand for some types of steel and aluminum brought good news to makers of some types of transportation equipment in the form of increased quotas for second quarter manufacture. Authorized second quarter quotas as of mid-March were:

Commercial trucks—250,000 vehicles instead of the previously permitted 220,000; freight cars, 22,000 units instead of 18,000; and truck trailers, 16,000 units.

Catch is that materials will not be allotted for the entire increase, the manufacturers having to dig into inventories to meet part of the permitted boost. Corresponding increases were expected to be allowed for manufacture of hoist and dump truck bodies.

Military Reviews Air Transport Military services are bending heavy effort toward improving and expanding their air transportation. But top officials say that this is more a matter of trying for higher efficiency in expediting short hauls and special movements than replacing established transport methods. They are on record as saying that air cargo movement is not going to make any noticeable difference in general freight movement for a long time to come—if ever.

As a concrete example, Admiral W. M. Fletcher, chief of Naval Operations, points out that while 44 ships can move 100,000 long tons a month from this country to the Far East, or say Australia, it would take 10,000 C-87 cargo planes to do the same job. It would also tie up 120,000 highly trained service men as crews. More than that, the admiral says, since it requires three tons of gasoline per ton of cargo to make the round trip, some 89 tankers would be tied up to keep such an airlift going.

MH Industry Employment Employment in most metalworking industries, including some materials handling equipment plants, hit bottom in December and should increase for all of this year. Defense Production Administration made a survey of such employment in late January and made such a prediction for the first quarter.

Since then, supplemental materials allotments for the second quarter have been made to many of these industries, indicating that if the first quarter forecast was borne out, the outlook would be even better for the months April, May and June—and, by implication, for the remainder of the year.

Number of workers on the job in December in selected major industries and the probable employment in March, as projected roughly from the DPA estimates, are as follows:

Industrial trucks, tractors, trailers and stackers—16,900 in December, 17,700 probable for March; overhead traveling cranes, monorail systems—9600 and 9725; other type cranes, shovels, and draglines—17,000 and 17,625; excavating, roadbuilding, and maintenance equipment—27,400 and 28,400; freight cars—29,700 and 30,500; truck trailers—9900, little if any increase; and truck bodies—20,800 employed in December, probably increasing to 21,325 by March.

More Civilian Goods Expected Production outlook for civilian type goods is looking up once more. Doleful predictions by control officials earlier this year have been partially offset by increased supplies of steel, aluminum and lead. Steel and aluminum output have increased, will continue. Also, more aluminum has

(*Please Turn to Page* 64)

DA
FEATURE ARTICLE

Roma System Sends 'Em Roamin' with Rhythm

Winery masters some complex materials handling problems; labor costs reduced by 87%, manpower units lowered by 70%

By Kenneth D. Nosworthy and Edward Rutherford
Materials Handling Supervisor *Division Traffic Manager*
Roma Wine Co., Schenley Industries, Inc., Fresno, Calif.

ANOTHER VISIBLE vote for mechanized materials handling is in operation at the Roma Wine Co., where integration of the proper MH equipment has produced a more direct and less expensive flow of goods.

Mechanized handling at the Fresno, Calif., division of Schenley Industries, Inc., has minimized manual handling, cut out long conveyor rides and eliminated breakage of the glass so important to bottling operations at the Roma plant.

The best testimony to the company's analysis and solution of some perplexing materials handling problems is found in these rather amazing results: an 87 per cent reduction in labor costs, and a 70 per cent cut in manpower units.

Expedite and Economize

The successful operation, achieved by Kenneth D. Nosworthy, Roma's materials handling supervisor, and Edward Rutherford, division traffic manager, speaks well for Nosworthy's belief that "Materials handling planning must be a specific study of a particular operation to iron out every bottleneck or awkward element, as well as to expedite the flow and economize on the cost of the movement."

Roma had no objections to bottlenecks in quart, half-gallon and gallon varieties, but when they involved costly and time-consuming manual operations, unnecessary wear and tear of cartons, glass breakage and road blocks in the flow of goods, these bottlenecks required a different sort of attention.

Nosworthy, a World War II lieutenant colonel in the Army's famed Transportation Corps, faced several problems:

One of the first was the number of handlings of glass bottles which arrived at the plant in fibreboard cartons. Cartons are necessarily one of the largest volume items in a winery such as Roma where more than 50 per cent of the output is in packaged form.

Glass was arriving at the plant in loads of 2500 to 3000 unit cartons. Each carton had to be individually handled out of the conveyance, placed on a conveyor, and run to storage.

At storage, another manual operation was required when the cartons were piled in stacks. A second problem relative to storage was that the storage space was not handy to the point of use.

When the glass in storage was needed at the bottling lines, a manual operation took place in moving the cartons from storage stacks to conveyors. And, there was another operation by hand when the bottles reached the bottling room mezzanine.

Handling Weakened Cartons

The glass, for convenience, was purchased in shipping containers. Although these cartons were above the minimum strength specified for transportation, it was obvious that each manual handling decreased the

Roma System . . .

(Continued from Preceding Page)

rigidity of the carton—an element so necessary to the safe transportation of a commodity in glass.

Thus, there was involved an operation of one or two manual handlings at the point of origin, two more on arrival at the winery, two in the storage room and another on the mezzanine before the cases started their unavoidable handling in going through the lines.

The approach in studying the problem indicated that the solution would have to be revolutionary and might embrace a total change of methods going as far as the shipping point of the cartons of glass bottles.

The plant use-point of the glass was at the head of the bottling lines. Using this as the target at which the flow was to be aimed, the planning required getting the cartons there by eliminating every manual or costly operation and cutting out two long conveyor rides.

Palletized Cartons

The first step resulted in elimination of manual handlings of the cartons as they arrived at the plant. The obvious answer was to receive the cartons in some manner other than individual units. Roma officials conferred with the carton manufacturers and it was decided to palletize the cartons.

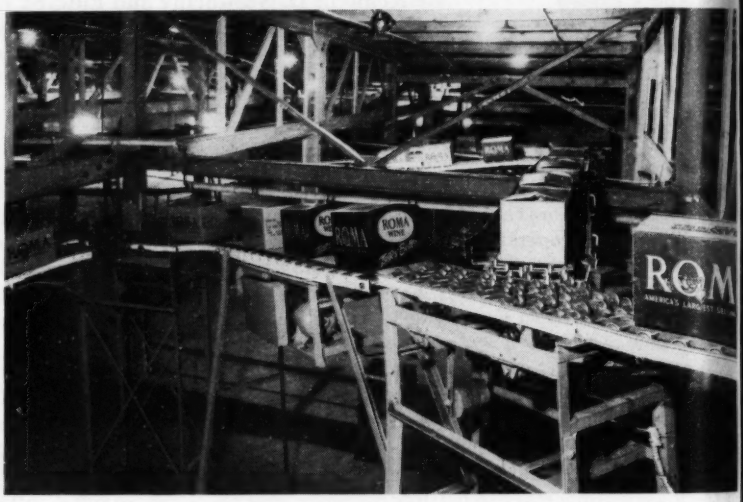
By palletizing the cartons, 64 cartons to a pallet load, loading out time was reduced and congestion at the shipping dock was relieved.

The next consideration was the problem of storage upon arrival. The solution was found in making such warehouse plan changes as to permit the pallets of empty glass to be stored as near the point of use as possible. In this way, they could be stacked and unstacked rapidly by lift trucks.

This second problem involved considerable rearrangement, but it was accomplished because of its importance to a more successful operation.

After cartons are lifted by a power conveyor to high point on the mezzanine, they are dispatched to any of eight conveyors by control switches, illustrated at left

From the mezzanine, the cartons descend gravity impelled conveyors on trestlework. Routing of these cartons has been determined by the man at the control switchboard



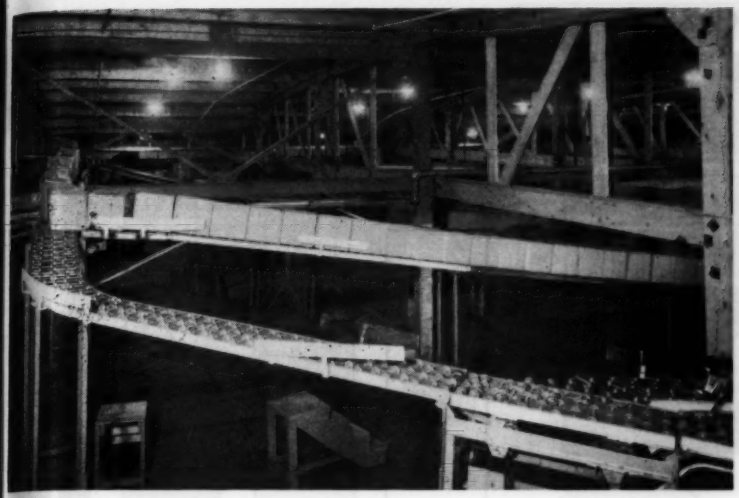
Pallet Unloading

The next poser involved the pallet unloading. Since a pallet-load of cartons would be delivered from storage by lift truck at a point for manual unloading by unit handling, the unloading operation from the pallet had to be as unified as possible.

Considerable study was needed to determine how few pallet-unloading stations could adequately feed glass to the consuming maws on eight active bottling lines.

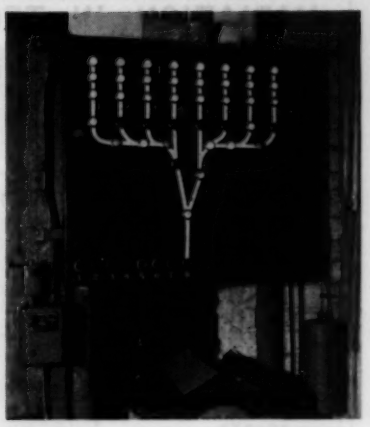
The ideal, of course, was one station for unloading pallets, but the test became, "Could one conveyor line from the pallet unloading station feed all eight lines?"

If the answer to that question were yes, it would require a distribution system on the bottling

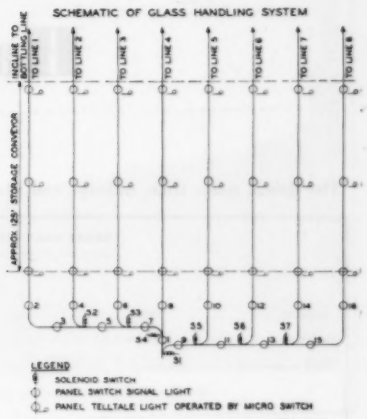


This view from the main floor shows the series of conveyors which branch from the main spur leading from the mezzanine. The system supplies uninterrupted flow of cases

Increased warehouse space economy is obtained by utilizing racks to stack odd lots and lesser volume wine types and sizes. There are 64 cartons to each full pallet



The photo (above) of panel switchboard and schematic drawing (below) of Roma's glass-handling system show a simplified method of channeling cartons to any of eight feed lines in the conveyor system. The switches are so constructed that the cases go straight when the solenoids are energized and turn when they are not. Panel switch lights are so wired that the case will flow through path of lighted lights, serving as check that cases are being delivered to the proper lines



CIRCUITS TO BE ENERGIZED

LINE	SOLENOID	SWITCH SIGNAL
1	1, 2, 3	1, 2, 3, 5, 7
2	1, 3	1, 4, 5, 7
3	1	1, 6, 7
4	1, 4	1, 8
5	..	9, 10
6	5	9, 11, 12
7	5, 6	9, 11, 13, 14
8	5, 6, 7	9, 11, 13, 15, 16

mezzanine that would ideally be automatic and would not involve another manual unit handling.

Following more careful study, it was decided that cartons could be lifted to a high point on the mezzanine by a power conveyor from the unloading station. From the mezzanine the cartons could be fed to the eight lines by conveyor lines which would operate by gravity from the height provided by the mezzanine.

The eight lines were patterned after the hump-yard principle of the railroads in their classification yards where cars are separated and made up into several trains on various tracks from the hump point.

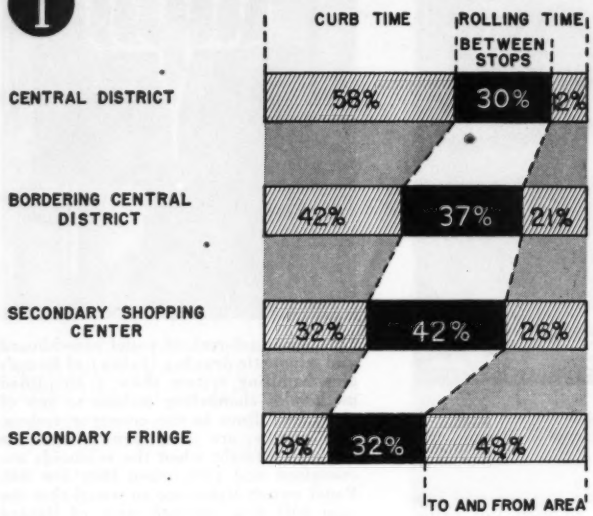
To put this principle to use with cartons on the bottling mezzanine, it was necessary to have switch systems operating on the same idea as the railroad yards because of the several sizes of glass bottles involved. For example: lines 1, 2 and 3 might be using fifths; line 4, quarts; line 5, half-gallons; line 6, gallons, and so forth.

When the study was completed, this arrangement was effected with the installation of gravity impelled

(*Please Turn to Page* 53)

VARIATION IN TRUCK TIME BY TYPE OF ROUTE

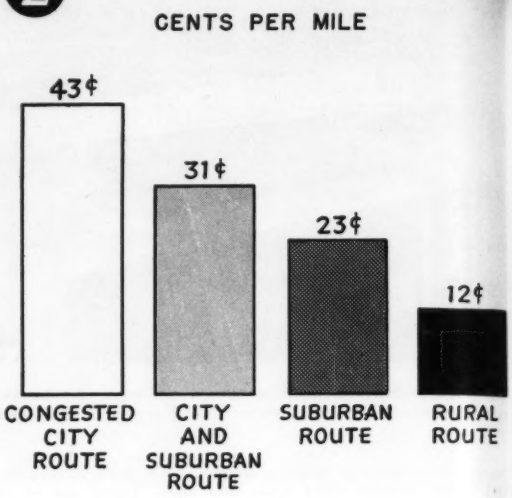
1



DELIVERY COST VARIATIONS

By Type of Route

2



Basic Data for Delivery

The driver notes time, mileage and place on this form as he makes stops

DRIVER DAILY SERVICE CARD

FIG. 1

TRUCK NO. _____ DRIVER _____

ROUTE NO. _____ HELPER _____

DATE _____

	DRIVER	HELPER
Regular Hours		
Overtime		
Total		
Total Wages		

ACTIVITIES:

A - Truck Check
B - Outloading
C - Unloading
D - Road Failure
E - Lunch
F - Rest
G - Backhaul
H - Other (Explain)

SPEEDOMETER READING	TIME STARTING	TIME LEAVING	JOB	WEIGHT	STORE NO.

OPERATIONS:

Total Hours Operated _____
Total Miles Operated _____
Number of Stops _____
Total Weight Out _____
Total Pieces _____
Total Weight Backhaul _____
Hours, Road Failure _____

EXPENSES:

ITEM	QUANTITY	TOTAL COST $

FIFTY-SEVEN per cent of all the manufacturer-owned or leased trucks are operated by the food products industry. The next nearest group is the lumber industry with only 9 per cent.

Thus, including wholesaling, the average NAWGA* member owns more highway transport equipment, hauls more tons and operates greater mileage than the average full-time trucking company. Of all the carriers subject to ICC, for example, 92 per cent operate fewer than 10 trucks.

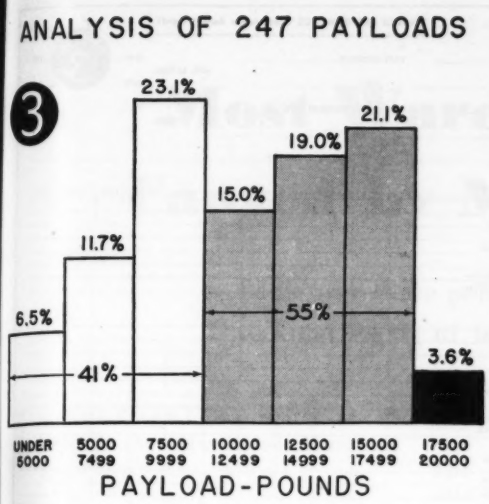
You also have made great strides in improving warehouse design, warehouse equipment and operation.

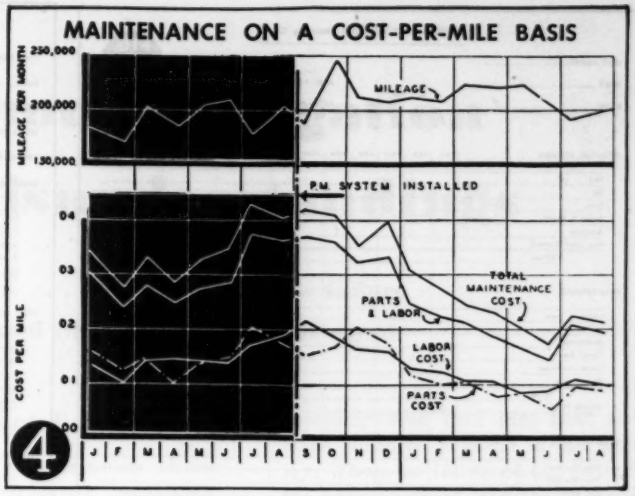
Your modern warehouse is equipped to assemble approximately 10 million dollars' worth of orders—for, unlike the warehouse of 25 years ago, this now is not primarily a storage place. It is a highly mechanized factory—an "assembly line" that can handle 35,000 tons of products every year.

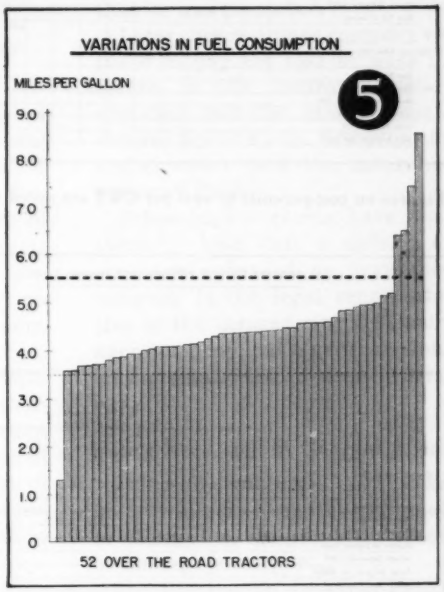
Many of you also have sizable manufacturing operations, coffee roasting, food packing, spice grinding, and the like.

The proper selection, operation and maintenance of this stationary equipment probably are familiar topics with you; because the equipment represents a large investment, and it operates where you can see

*National-American Wholesale Grocers' Assn.







Cost Control

Second GMC Transportation Survey offers cost-cutting cues to management through standardized records and control forms

By W. L. VandeWater *Merchandising Manager*
GMC Truck & Coach Division, Pontiac, Mich.

it. Although the delivery equipment may represent a larger investment and greater operating expense, it is not so familiar to you.

Over and over again we have heard wholesalers say, "My only aim is to keep delivery cost below 2 per cent of net sales (or 1½ per cent, as the case may be)." We realize that they quit worrying about it when it drops below that magic line.

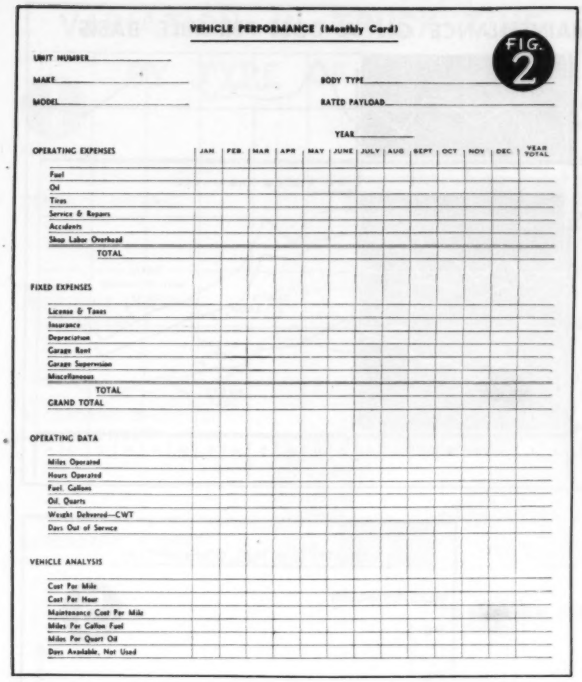
Maybe that's a safe and intelligent control on small operations. But, on volumes above $5,000,000, a 2 per cent delivery cost means $100,000. A 10 per cent savings means $10,000—the net profit on, say, $1,000,000 new business or a 20 per cent increase in volume, an item not to be treated lightly.

Management is used to studying accounting items which have a long-established significance. The traditional summaries of sales statistics, inventory analysis and operating expenses were long ago perfected to spotlight single issues for decision. By comparison, the transportation summaries prepared for companies not principally engaged in hauling are just unrefined work sheets with such a puzzling mixture of accounting variables that a busy man can't get hold of any single issue for decision.

And this brings us to the crux of the matter—*for what management decisions should accurate information be compiled?*

These decisions fall roughly into two groups.

First, there are those decisions tied to the kind of business you now have—the kind of hauler you are, size of load, length of haul, traffic density, frequency of stops, size of order, and the regularity of your volume. These decisions will have to do with the selections of the ideal fleet for your purpose, the number and type of trucks, and whether you should lease or own.



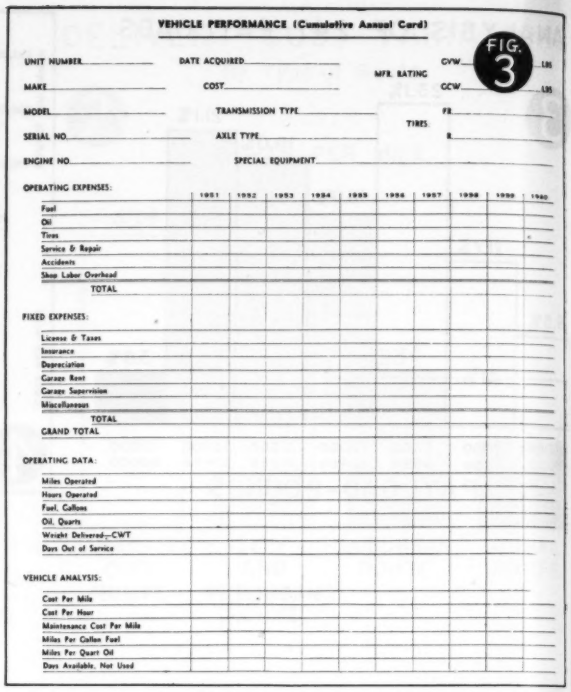
VEHICLE PERFORMANCE (Monthly Card)

FIG. 2

UNIT NUMBER
MAKE
MODEL
BODY TYPE
RATED PAYLOAD
YEAR

OPERATING EXPENSES	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEAR TOTAL
Fuel													
Oil													
Tires													
Service & Repairs													
Accidents													
Shop Labor Overhead													
TOTAL													
FIXED EXPENSES													
License & Taxes													
Insurance													
Depreciation													
Garage Rent													
Garage Supervision													
Miscellaneous													
TOTAL													
GRAND TOTAL													
OPERATING DATA													
Miles Operated													
Hours Operated													
Fuel, Gallons													
Oil, Quarts													
Weight Delivered—CWT													
Days Out of Service													
VEHICLE ANALYSIS													
Cost Per Mile													
Cost Per Hour													
Maintenance Cost Per Mile													
Miles Per Gallon Fuel													
Miles Per Quart Oil													
Days Available, Not Used													

Figures on cost-per-mile or cost per CWT are noted on this chart



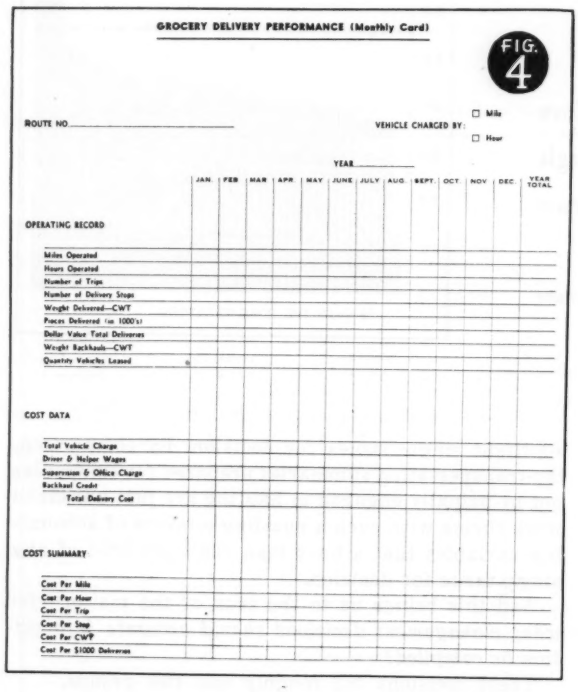
VEHICLE PERFORMANCE (Cumulative Annual Card)

FIG. 3

UNIT NUMBER
DATE ACQUIRED
MFR. RATING GVW LBS
MAKE
COST
GCW LBS
MODEL
TRANSMISSION TYPE
TIRES FR
SERIAL NO.
AXLE TYPE
R
ENGINE NO.
SPECIAL EQUIPMENT

OPERATING EXPENSES:	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Fuel										
Oil										
Tires										
Service & Repair										
Accidents										
Shop Labor Overhead										
TOTAL										
FIXED EXPENSES:										
License & Taxes										
Insurance										
Depreciation										
Garage Rent										
Garage Supervision										
Miscellaneous										
TOTAL										
GRAND TOTAL										
OPERATING DATA:										
Miles Operated										
Hours Operated										
Fuel, Gallons										
Oil, Quarts										
Weight Delivered—CWT										
Days Out of Service										
VEHICLE ANALYSIS:										
Cost Per Mile										
Cost Per Hour										
Maintenance Cost Per Mile										
Miles Per Gallon Fuel										
Miles Per Quart Oil										
Days Available, Not Used										

Any weakness in vehicle performance appears in this annual report



GROCERY DELIVERY PERFORMANCE (Monthly Card)

FIG. 4

ROUTE NO.
VEHICLE CHARGED BY: ☐ Mile ☐ Hour
YEAR

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEAR TOTAL
OPERATING RECORD													
Miles Operated													
Hours Operated													
Number of Trips													
Number of Delivery Stops													
Weight Delivered—CWT													
Pieces Delivered (in 1000's)													
Dollar Value Total Deliveries													
Weight Backhauls—CWT													
Quantity Vehicles Leased													
COST DATA													
Total Vehicle Charge													
Driver & Helper Wages													
Supervision & Office Charge													
Backhaul Credit													
Total Delivery Cost													
COST SUMMARY													
Cost Per Mile													
Cost Per Hour													
Cost Per Trip													
Cost Per Stop													
Cost Per CWT													
Cost Per $1000 Deliveries													

Monthly chart is based on drivers' reports and financial records

NEXT MONTH — **The third article in this four-part transportation series**

. . . Basic Data

(Continued from Preceding Page)

Here in rapid succession are some of the data one metropolitan wholesaler needs to make decisions on the ideal fleet. We didn't have time to study all of his routes, but four studied in considerable detail will illustrate a point on city traffic vs. country traffic.

Chart 1 shows the "rolling time" and "curb time" on four widely dissimilar routes. The only constant is the riding time between stops after the trucks reach their territory.

Curb time varies from 58 per cent of the total on a central city route to 19 per cent of the total in a remote suburb. Conversely, riding time, to and from the delivery areas, ranges upward from only 12 per cent on the city route to 49 per cent on the remote suburban route.

Obviously, the city route vehicle requirements call for the greatest possible vehicle maneuverability in traffic, while the requirements of the suburban route resemble over-the-road situations and seem to call for tractor-trailer operation.

Chart 2 shows how total delivery cost per mile varies by type of route. The congested city route, where 58 per cent of truck time was spent idling at the curb, shows a per-mile cost of 43 cents, while a rural route, with more than 80 per cent road time, costs only 12 cents per mile. This suggests that all peddle service routes are best studied on a cost-per-hour basis, and cents-per-mile figures only used on over-the-road operations.

Wholesale routes also vary widely in size of load carried. Note from Chart 3 that 41 per cent of the loads are less than 10,000 lbs. An additional 55 per

(*Please Turn to Page* 80)

Most Warehouse Litigation Caused by Misunderstandings

Look over those policies . . . case histories show failure to know rights of insured or responsibilities of agents

By Leo T. Parker

The author presents these case histories on insurance law in response to a series of questions asked him at the recent Mayflower Convention in Cleveland.

IN FEBRUARY the writer attended the Mayflower Warehousemen's Association Convention in Cleveland, Ohio. While addressing the members of this association, I found that a considerable number of warehousemen are interested in insurance law. Therefore, now I shall discuss certain phases of insurance law affecting warehousemen.

First, it is important to explain that a great majority of warehouse insurance law suits result from misunderstandings of warehousemen with insurance agents.

There are two kinds of insurance agents. One class is known as "special" agents. This agent is the one who may call at your warehouse and solicit your insurance business. The other is a "general" agent who usually manages a branch office of the insurance company.

Know Your Agent

Modern higher courts consistently hold that an ordinary or "special" insurance agent is your representative and not an agent of the insurance company. Hence, the insurance company is not in any sense liable for promises made by the "special" agent.

Irrespective of what your special insurance agent promises and no matter what protection you believe your insurance policy includes, you must rely exclusively upon the protection defined by the policy and carefully read the policy. See Ferla v. Commercial Casualty Insurance Co., 59 Atl. (2d) 714.

In that case it was shown that an insurance policy had a typewritten endorsement which limited the insurance coverage. Subsequently the insurance company refused to pay a loss and the insured filed suit. He testified that when he applied for the policy he told the "special" insurance agent to issue a policy to cover his losses. Nevertheless, the higher court refused to hold the insurance company liable.

This court held that if a "special" insurance agent is authorized merely to solicit applications for insurance, he is the agent of the insured and not the agent of the insurance company. Therefore, failure of the "special" agent to follow instructions of the warehouseman did not obligate the insurance company.

According to a late higher court decision, an insurance company is liable for payment of a loss when the testimony shows that a general agent of the insurance company verbally promised the desired protection or authorized a special agent to promise protection.

For example, in Pouwels v. Mutual Casualty Co., 37 N. W. (2d) 869, it was shown that a special agent of an insurance company solicited insurance. At this time the insured told the agent the protection he wanted. The special insurance agent had some doubts about such an insurance policy, and he made inquiries from the general agent for the insurance company who told him that the risks could be covered in one policy. When he delivered the policy, the special agent told the insured that he was protected.

Later the insurance company refused to pay the loss because no clause in the insurance policy specified that the insured could recover for this loss. However, the higher court held the insurance company liable.

Other higher courts have consistently held that a special or ordinary agent of an insurance company is the legal representative of the insured, not the insurance company, but a general agent may obligate the insurance company.

Policy Reformed by General Agent

It is well established law that an insurance policy may be reformed or changed on the ground of fraud or misrepresentation.

For illustration, in Aiken Petroleum Co. v. Millers Mutual Fire Insurance, 36 S. E. (2d) 380, it was shown that a corporation desired to procure fire insurance on its warehouse.

A local special agent of an insurance company informed an official of the corporation that it would be necessary that a coinsurance clause be attached to the policy, the effect of which would be to limit the liability of the insurance company writing the policy in the event of fire, to about fifty per cent of the loss.

The corporation official refused to take out the policy.

Later a general agent of the insurance company agreed to write the policy and agreed that no co-

(*Please Turn to Page* 48)

Warehouse Efficiency

Here is a handy, step-by-step method of appraising your operation

This could be your guide to reduced costs and increased profits!

THERE are four good reasons why now . . . today . . . is an excellent time to give your warehouse its periodic efficiency checkup.

1. Some types of materials handling equipment are becoming extremely scarce.

2. Manpower problems are multiplying as the personnel needs of the military services continue to increase.

3. Our war preparedness economy is making peak demands on our distribution system.

4. Operating costs have gone sky-high.

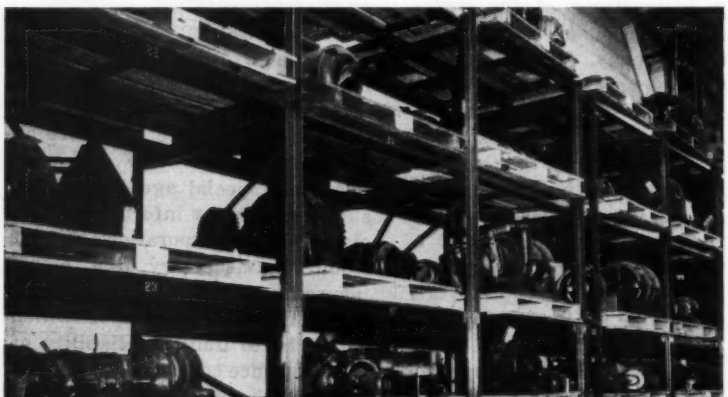
Isn't it about time to make a real, honest to goodness appraisal of your warehousing efficiency . . . no rationalizing, really dig in and study your warehouse operation from top to bottom?

Let's take a look at some of the things that customers expect of public warehouses. They say, for example: Be able to process orders quickly, efficiently and courteously to my customers. Protect my merchandise from fire, theft, water damage, and handling damage. Keep your building looking clean and orderly so that it is in keeping with the fine name of my product. Give me a maximum of service at a minimum rate. Give me super service every time I need it. Treat my merchandise as if it were light bulbs; the tiniest scratch or nick greatly reduces the salability of my product.

The aggregate of these customer demands on public warehouses is a big order. Living up to expectations requires a constant push for perfection in warehousing methods.

Stick this checklist under your arm and take a walk through your public warehouse today.

These pallet racks provide a good method of tiering items of irregular shape Such neatly stored equipment will impress a potential warehouse customer



Handling Operations

For your benefit and the tenant's, maintain a constant check on condition of handling equipment and efficiency of handling operations. Much of the expense of running a warehouse lies here.

1. Is equipment being well maintained? Do you have a set plan for replacement and replacement parts for handling equipment?

2. Are any operations being done manually that could be performed faster and more economically mechanically?

3. Do you make maximum use of gravity in your warehouse? It is the cheapest way to move goods to a lower level.

4. Are elevators a bottleneck? Can their capacity or speed be increased? Perhaps power conveyors should augment the elevators.

5. Is anything being handled more times than is necessary? Both elevators and order assem-

Checklist

By Lloyd Moore

PART 1 in a Series of Three

bly bays often are responsible for extra handlings.

6. Would any new equipment or racks make possible more efficient space use?

7. Do you read materials handling publications regularly so you know what the new equipment is and what it will do?

8. Do your people actually use equipment as it should be used? Is it busy enough to justify its existence?

9. Would your warehouse people use equipment more efficiently if they were given further training?

Physical Setup

Some minor changes in the physical setup might pay dividends. Often a small physical change makes possible a substantial increase in processing capacity.

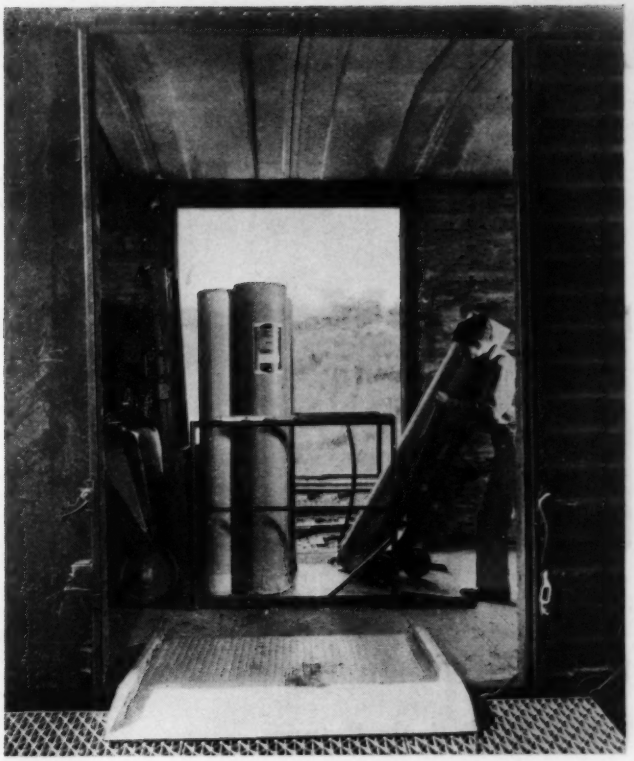
1. Would more or larger freight doors speed up operations?

2. Are you handicapped by insufficient truck or rail-car high shipping and receiving facilities? A sloped drive may be the answer. Docks might be extended. Overhead equipment might be the solution.

3. Are shipping and receiving divorced from each other so that confusion of merchandise does not occur? New docks or doors may be needed.

A requisite of most occupants is that the public warehouse be able to process orders quickly, efficient-

(*Please Turn to Page* 54)



These rolls should not require individual attention on hand trucks With a little ingenuity, odd-shaped articles can be moved in bulk

You are paying for the vertical space—you might as well use it Are there more items in your warehouse that could be palletized?

Article 1...

Private Warehouses

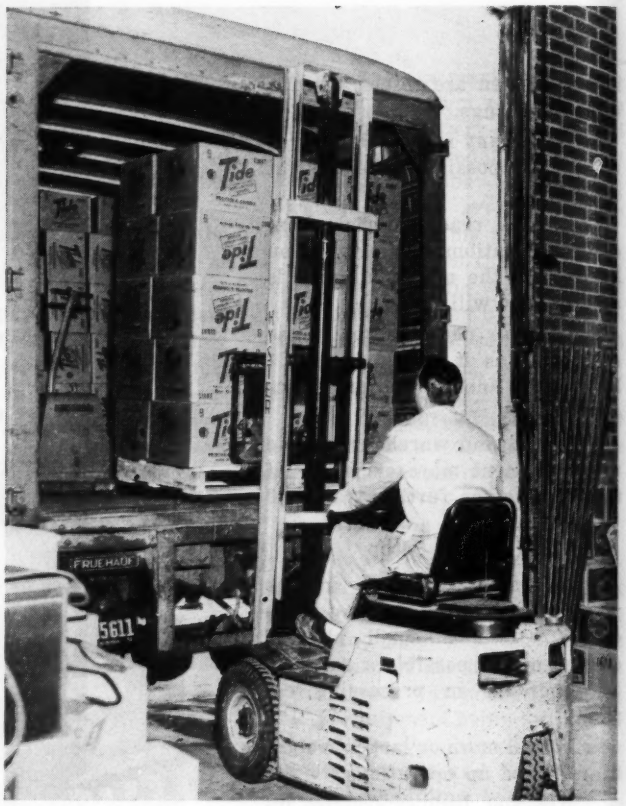
Retail Market's Lift Truck Brings Large-Scale Returns With Simple Unit Load Plan

THE SELF-POWERED lift truck, long the indispensable tool of heavy industry and manufacturing plants, is coming into its own as an ideal materials handling tool for retail stores where the volume of merchandise handled is such that the unit load is practical, if not a necessity.

Typical of the progressive grocery firms that are regarding the lighter model lift truck as the best means of cutting handling costs—sometimes as much as 50 per cent—is the Greater Central Market of Bellflower, Calif.

Greater Central, of course, also uses hand trucks and conveyors, but for those hauls where previous methods are not practical, or on the shipping and receiving dock where all handling was done by hand, a single lift truck has cut handling and warehousing time in half—enabling four men to unload five box cars a day.

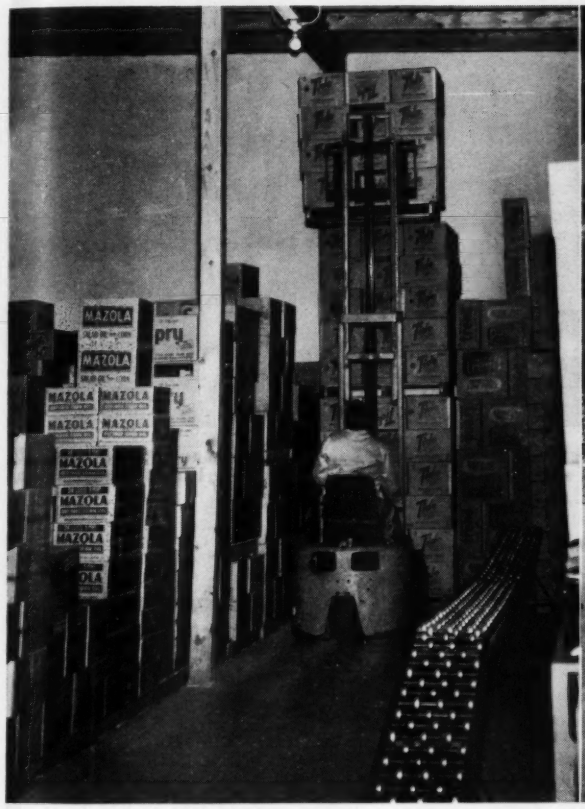
Oddly enough, this 2000-pound capacity lift truck was not installed so much for efficiency or labor saving as it was to make the work easier for the men. At present about one third of the warehouse stock is palletized. The center two or three aisles are palletized and all the others are stacked to the eighteen foot ceiling by hand.



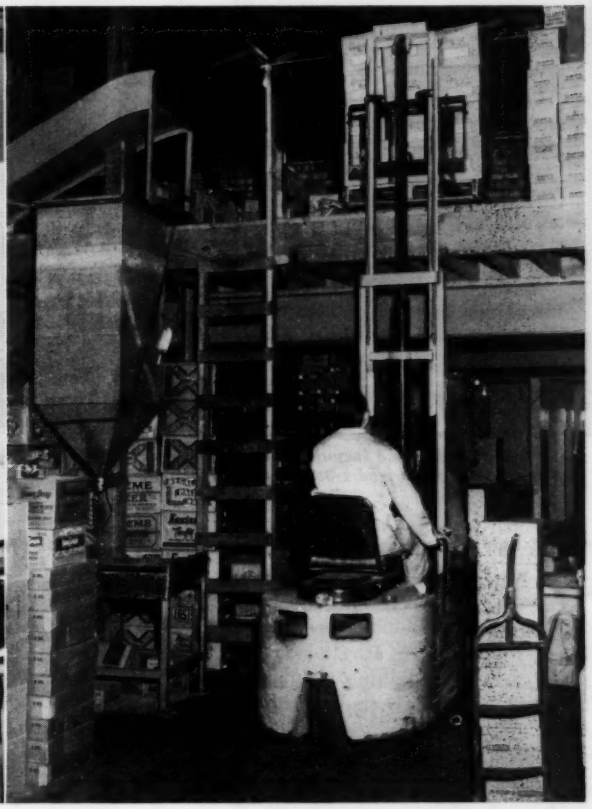
Lift truck removes pallet load of 30 cases. Handjack in truck moves loads from center or front of truck to position on tail of truck

The warehouse itself is on ground level and when a shipment is received a pallet is placed on the floor of the delivery truck and loaded. A hand jack moves the loaded pallet out into position for the lift truck which transports it to storage.

Profit by Public Warehouse Methods



Palletized loads are stored three tiers high. Greater Central also uses conveyor (right, at front) and hand trucks



Smaller items are palletized and stored on balcony by fork truck; pallets are unloaded and used again for lifting

Unpalletized goods are run from the delivery truck into the warehouse with gravity conveyors. Lighter merchandise is stored on a balcony, being lifted to that level with the lift truck (which has a 9-ft lift).

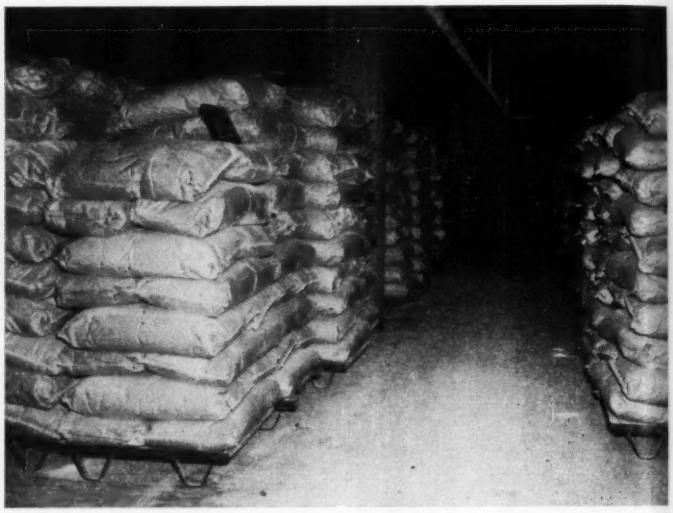
All sugar and flour is palletized. Sugar tonnage handled this way ranges from 3000 lb per week to 60,000 lb during peak periods. On case goods the yearly average would be about three cars a day at 40,000 to 66,000 lb per car.

Though warehousing space in this instance is as yet not sufficient for a full palletized handling program, the labor-saving features of the lift truck have proved the value of such equipment in even retail grocery operations. •

Bakery Boosts Storage

★ THIS SERIES of three articles beginning on Page 28 also could be titled "Small Warehouses Profit by Large Warehouse Methods." Whether the comparison is made by size or type of operation, the same result is obtained in any industry through the use of modern materials handling equipment.

With the cost of manual labor constantly on the increase, the use of this equipment may mean the difference between profit and loss.



BEFORE: Flour bags were stored on skids, eight to 10 high, 16 to 20 bags to a skid. Method of handling and height barred double tiering

Pallet-fork truck plan handles 60 more carloads in one month

BY STACKING its raw materials on pallets instead of skids and replacing its hand trucks with 2500-lb capacity fork trucks, the North Philadelphia plant of General Baking Co. is now able to receive, store and deliver up to 150 per cent more bread and cake ingredients each month.

Before installation of this pallet-fork-truck system, 40 carloads of goods were handled during each 30-day period. Now, up to 100 are handled.

Formerly supplies were first stacked on skids as they were received and then transported to storage and production areas by hand trucks.

When the company's production of bread and cakes reached a level where the consumption rate was overtaking the handling and storage rate, General Baking installed a mechanized handling system designed to create more usable storage space in the same plant area and to speed operations.

Now, materials are either received in palletized form—as per purchasing instructions—or stacked on pallets when they arrive. Fork trucks are used for every phase of the handling operation. Unit loads are larger. Materials are stacked higher. Aisles are neater. Materials flow between receiving docks, storage floors and production areas at faster rates.

Flour, in quantities up to 70 carloads per month, represents the largest single item handled. Prior to the installation of the pallet-fork-truck system, the 100-lb bags of flour were stacked on skids in unit loads of 16 to 20 bags—two bags to a layer, eight to ten layers high.

The carload lots of 816 bags are now palletized at the car onto 34 pallets. Three bags make a layer on these 33x48-in. pallets. Two bags lie lengthwise and one crosswise in each layer. Each pallet now has eight layers, or 24 bags—a 20 to 40 per cent increase. Fork trucks stack these pallets two tiers high, thus permitting more than twice as much flour to be stored in the same space.

Barrels of syrup, molasses and flavoring were formerly rested on their sides in racks. They were put there—one at a time—by a port-

Capacity 150 Per Cent

AFTER: Now, flour bags are stored on pallets, two pallets high, 24 bags to a pallet. Over twice the amount is stored in same floor space

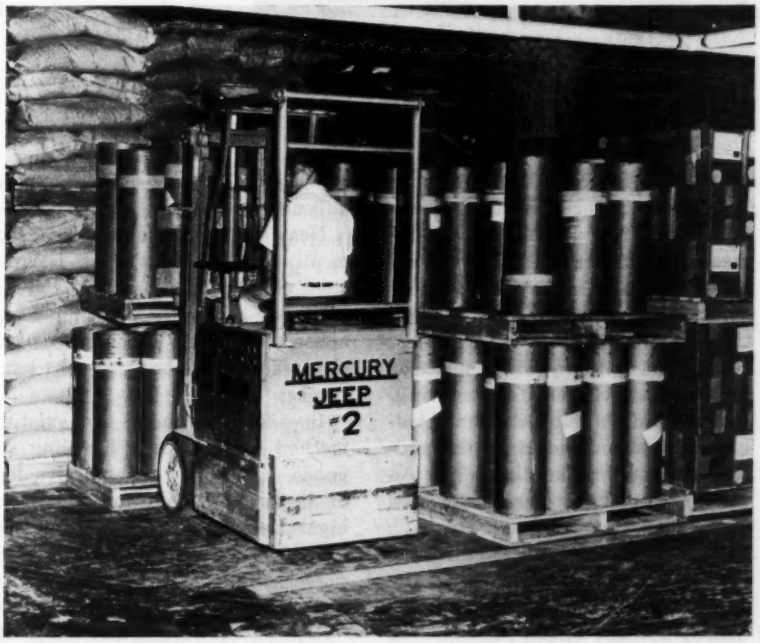
This fork truck, with a special barrel-handling attachment carries and stacks two barrels in one operation

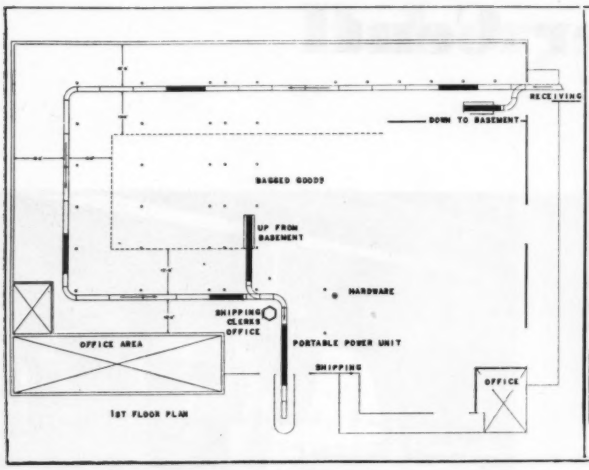
One area shows 400% saving

able elevator. Storage space was wasted and the barrels leaked. Now, they are handled two at a time, with a special fork-truck barrel-handling attachment, and stacked upright. No racks or pallets are used. The barrels no longer leak.

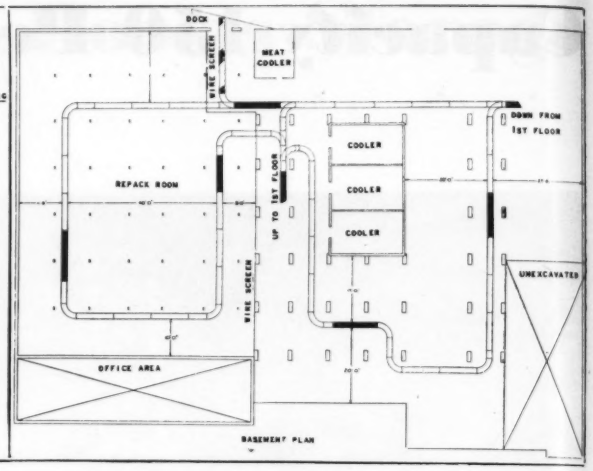
Rolls of waxed paper were loaded onto skids at receiving dock, transported by hand truck to storage area and unloaded one at a time onto ceiling racks in the cold storage area—one skid load being left underneath the rack. Rolls are now put on pallets at the receiving area, quickly carried to cold storage by fork truck and stacked three high. Biggest space saving was in this area—almost 400 per cent. •

Space saving is shown by variety of palletized goods—rolls, bags and barrels





Shipping and receiving areas are on the first floor (also see photograph)



Conveyor plan has stopped shortages by cutting traffic through repack room

Operating Costs

Conveyor system and modern warehousing

OPERATING COSTS have been reduced $600 a month and output has been increased by 25 per cent at the Seven Day Wholesale Grocery, Inc., Woodville, Miss., through the installation of a modern conveyor system.

Manual warehousing methods had not been efficient for receiving, storing and shipping the large volume of goods handled in the grocery's two-story building. The resulting problems were numerous and varied.

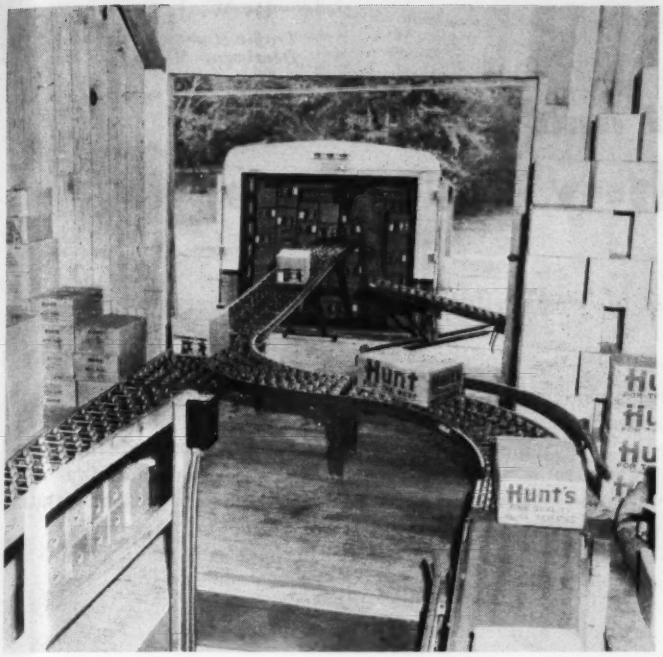
For example, the fast, turnover items had to be stored near the doors. This left little or no room nearby for the bulky, slow-moving goods which are usually the most difficult to handle.

Nearly 70 per cent of the basement space was wasted because stock could not be moved in and out efficiently under the existing warehouse floor plan. Varying floor levels restricted the use of hand trucks.

In addition, under the existing method of manual handling of goods, there was an excessive loss of items such as watches, knives, cigarettes, nylons and candy because of the outside traffic which necessarily went through the repack room.

Unsystematic order-filling and checking operations led to shortages and delayed shipments. Because of this combination of bad warehousing features, the warehouse was difficult to keep clean and orderly.

In analyzing the problem, it was decided to install a modernized conveyor system. This system consisted of some 1200 ft of 18 in. wide conveyor belt, nine belt units which were used as gravity line boosters, one 26 ft belt conveyor which went from the basement to the first floor, a belt of half that length from the first floor to the basement and an 11 ft belt conveyor at the loading dock.



At receiving dock case goods flow on gravity conveyor into warehouse Spur curve near entrance will direct cases to first floor or basement line

Cut $600 a Month

methods handle 25 per cent more goods with less expense

The new system has made all of the warehousing operations at Seven Day easier and more systematic as well as permitting complete utilization of all the areas of the building for storage. Delivery service has been speeded up, output has increased and employee morale has been boosted considerably.

How The System Works

Here is how merchandise is routed under the new system of conveyor equipment:

When cartons arrive by truck at the dock, a portable conveyor takes them to a permanently-mounted conveyor system inside the warehouse. Cartons may either continue to a line that circles the first floor storage area and leads out to the shipping dock or they may be diverted to the shorter 13½ ft belt unit which takes the cartons to the basement.

The conveyor line on the lower floor has separate loops serving the coolers and a screened-off repack room. Orders picked from storage in these areas flow on the basement conveyor line to a belt unit which takes the cartons up to the first floor. At the first floor, the cartons are transferred to a line leading to the shipping dock.

Produce and bagged goods, such as onions, potatoes and cabbage, are placed on small pallets to enable them to be handled on the conveyor system.

Results under the new system have been most profitable. There have been many contributions to economy and efficiency in addition to the monthly savings and increased output mentioned previously.

Now, the entire basement can be used for storage. This improvement has seen an increase in utilization of available space for storage by 70 per cent.

Case goods are unloaded 50 per cent faster than previously and shipping time has been cut by more than 30 per cent. Also, the bulky, heavy and non-conveyable stock can be stored near the shipping doors.

Orders are filled and delivered several hours faster than previously; an important consideration in wholesaling groceries. Demurrage costs, the costs for time required to load and unload goods beyond the usual time allotted to those operations, have been eliminated completely.

Breakage Reduced

Breakage has been reduced by 50 per cent, despite the greater speed in handling goods under the present system. The big factor in the reduction, of course, is the substitution of conveyor handling for manual handling.

Workmanship has made a rapid increase. C. M. Treppendahl, Jr., president of the Seven Day Wholesale Grocery, Inc., estimates that workman efficiency has increased by as much as 90 per cent.

Finally, in the line of improvements, the warehouse is now neat and orderly. This promotes better safety conditions as well as finding the cleanliness reflected in the morale and performance of the employees.

A checker in a booth is one of the important human elements involved in the operation. As stock from the main floor flows into the main line on the first floor, it joins items that have been picked from the first-floor stacks. At that point, the checker in the booth (see photograph) con-

(*Please Turn to Page* 57)

PART 1

By W. J. Dernberger
Traffic Manager, Ford Motor Co., Dearborn, Mich., Engine Plant

Traffic, MH and Packaging— How They Overlap

A traffic manager shows areas of responsibility and joint cooperation

THIS subject, taken from a traffic manager's viewpoint, has given me a few headaches. However, I believe the following analysis will help traffic managers in their never-ending struggle to evaluate, allow or deny the constant "change-requests" of materials handling and packaging engineers.

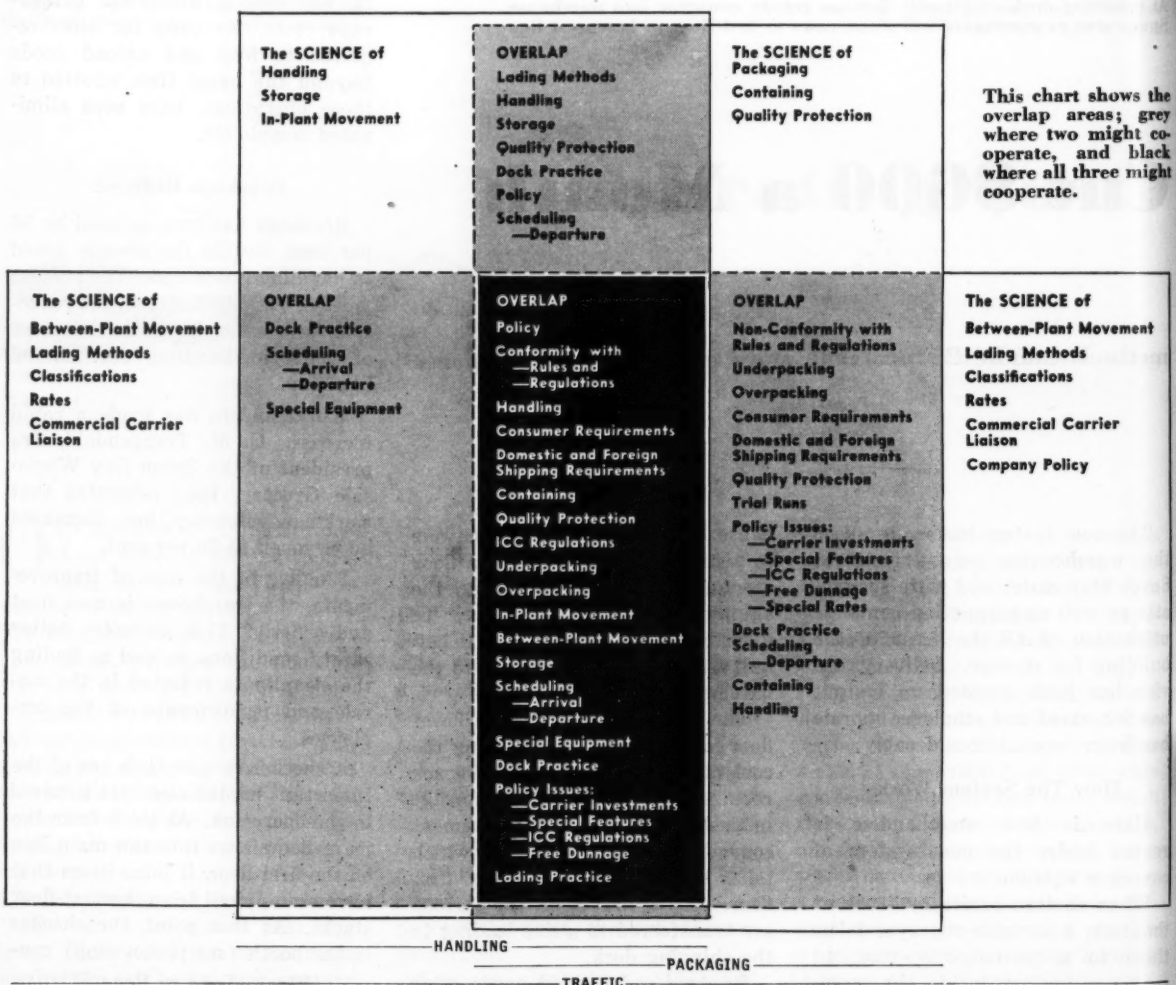
The terrific modern emphasis on these "desires for change," which are tendered in the name of progress, places the traffic manager in in an unenviable position. He is treading on the quicksand of "true economy," in the sense of the overall costs of transportation.

He realizes that existing considerations of rates and classifications come from long experience.

He knows of the extensive trial-and-error practices which have resulted in certain final "results;" they being the present existing classifications and rates.

He questions the "weight-of-emphasis" behind today's requests which would reverse, in many in-

(*Please Turn to Page* 58)



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MHI's Pittsburgh Meeting Covers Dry-Bulk Handling

Experts discuss metal-producing, processing, mineral-mining, quarrying industry problems

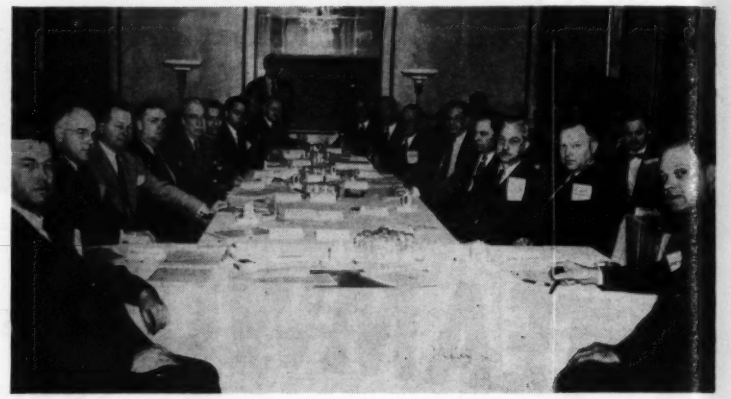
THE FIRST in a series of unique user-manufacturer conferences, sponsored by The Material Handling Institute's Industry Service Committee, was held at the Pittsburgh Athletic Assn., February 28 and 29.

The conferences are designed to bring service to industry by clarifying current thought and development in the realm of better industrial efficiency through improved material handling methods.

The Pittsburgh meeting — devoted only to current problems in dry bulk handling—was restricted to 16 delegates: one from each of eight equipment manufacturers with considerable bulk handling experience; and one each from the ceramic, chemical, coal - mining, grain - handling, metal - producing, mineral - mining, quarrying, and processing industries.

Selected editors of business publications related to the material handling field, were also invited to the conference.

Each user-representative posed a major problem which was characteristic to his industry. Working in an informal atmosphere, under the direction of Chairman L. West Shea, president of MHI, and Co-Chairman H. H. Hall, vice president of the American Material Handling Society, Inc., the engineering representative of each manufacturer replied to each stated problem and offered his suggestions and solutions in terms of his own experience.



Participants in the Material Handling Institute conference on "Better Methods of Handling Dry Materials in Bulk" at the Pittsburgh Athletic Association, February 28 and 29, were (left to right, center table): L. West Shea, President, MHI; A. K. Strong, American Cyanamid Co.; L. G. Weller, Fuller Co.; Carleton Lord, United States Steel Co.; S. M. Mercier, Jeffrey Manufacturing Co.; C. D. Gabor, Harbison-Walker Refractories; Fred Sherriff, Clark Equipment Co.; E. Lee Heidenreich, Jr., Designing Engineers; O. W. Werner, Link-Belt Co.; (standing) E. R. Lutz, Atlas Powder Co.; H. H. Hall, Aluminum Company of America; F. J. Schmidt, American Steel Dredge Co., Inc.; A. B. Crichton, Jr., Johnstown Coal and Coke Co.; E. W. Franz, May-Fran Engineering Co.; A. D. Sinden, Stephens-Adamson Manufacturing Co.; M. C. Dow, New York Trap Rock Corp.; R. F. Wikoff, The Thew Shovel Co.; B. R. Carter, Staff member of The Material Handling Institute.

The major problems, discussion of each, and possible solution appear in the following paragraphs; they are listed according to the eight industries represented at the MHI conference.

Metal Producing Industry

PROBLEM: Best method of handling large quantities of coal in and out of emergency stock piles operated in conjunction with a coke plant.

The specific case under consideration involves an outdoor area about 800 ft wide and extending approximately 2,000 ft along a river. A total of approximately 1,700,000 tons of coal is stocked in three to six piles which normally are 30 to 50 ft. high. At present three types of coal are stocked—low-volatile,

(*Please Turn to Page* 38)

Next Month—DA will present MHI report on dry-bulk handling problems of manufacturers in four more industries

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PASSENGER-CARGO PLANES	9 hrs. 50 min.	7 hrs. 55 min.
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Comparative Air Shipping Costs of United's Complete Cargo Service

(Los Angeles—New York used as an example)

	AIR PARCEL POST	AIR EXPRESS	AIR FREIGHT
5 lbs.	$ 4.00	$ 5.77	$16.85
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. . . Dry-Bulk Handling (Continued from Page 36)

and washed and raw high-volatile —and other grades may be stored in the future.

The handling problem is complicated by the erratic flow of coal to and from this stock pile. Receipts can be as much as 24,000 tons per day and are divided about equally between rail and barge. Shipments can be as high as 36,000 tons per day, most of it by barge. It is possible that once or twice a year the system might be called upon to receive 500,000 tons in a single month and to ship 600,000 tons in another month.

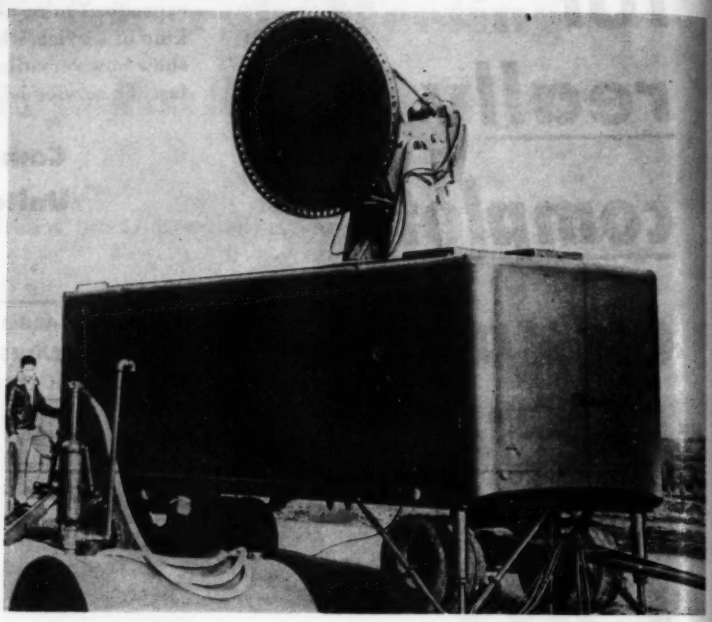
It is desired to develop methods and facilities to replace a coal bridge equipped with two six-ton buckets which serve the most active coal pile. This bridge also loaded and unloaded barges with coal moving from and to the other piles not serviced by the bridge. It is desired that the new facilities offer greater flexibility and serve all coal piles equally well.

SOLUTION: It was generally agreed by the users, suppliers and editors present that the best method of stock piling coal involved a sequence of barge unloader, belt conveyor and self-powered earth moving and compacting equipment. The specifications for each to be determined by the exact layout.

The discussion of de-stocking revolved around two possible solutions: (1) tunneling, and (2) expanded utilization of motorized equipment.

The tunneling operation would involve construction of a series of parallel closed trenches at ground level approximately 50 ft apart and extending back from the river the depth of the coal pile. Belt conveyors installed in these trenches would be fed from electrically controlled gates at 25-ft intervals through which the coal would fall by gravity. De-stocking would be worked around the perimeter of each coal pile, and coal would be pushed by bulldozer to the conveyor gates. The extensive tunneling would be considerable. While this system is considered efficient for stocking-out it would not be used for stocking-in operations.

Motorized equipment was strongly endorsed for both stocking-in and stocking-out operations. It was estimated that a fleet of seven or eight units of 21-yard capacity could handle 20,000 tons per day and additional units could be leased to handle peak loads. This equipment can haul capacity loads up 16-per cent grades and is particularly useful in compacting and reclamation work.



This 21-ft fire-control trailer, to be used by the Army Ordnance Corps, is extremely compact and can be moved quickly cross-country. The trailer was originally designed by Douglas Aircraft Co., Inc.; the trailer body was built by White Motor Co. The trailer houses an electronic system which discovers and tracks hostile planes, and feeds continuous information concerning location into complex instruments in the trailer which automatically control firing of anatiaircraft batteries. The system is by Western Electric.

Mineral Mining Industry

PROBLEM: During strip mining, the face extends away from the plant as mining proceeds. The main problem: "How to provide power to equipment operating between the ends of power lines and the face?"

SOLUTION: Three types of power were suggested.

The first: trolley-diesel-electric vehicles designed so that the diesel engines operate beyond the limits of the electric power supply. This type was considered as having limited application because of the expense of the equipment. However, it is definitely applicable where distance between shovels (at the face) and the electric power lines are considerable and/or grades of travel are severe.

The second: trolley-battery vehicles which are particularly applicable where the distance and service between power lines and the face can be adequately serviced by batteries. One such installation, now in operation, is at a large midwestern mine. Here, vehicles (20-50 ton capacities) are equipped with trolleys which receive power from overhead lines. However, they are also equipped with batteries which supply power after the vehicles leave the limit of these lines. Batteries are charged from the power lines, during the return trip (such as an automobile battery is constantly being charged) and for longer periods during the plant's down time between the second and first shifts. (The group wondered about the effect of partial charging of battery life.)

Other types of equipment mentioned: trolley-cable types where

(*Please Turn to Page* 40)

. . . Dry-Bulk Handling (Continued from Page 38)

units operate on cable and reel arrangement (such as transfer cars used in underground mining.)

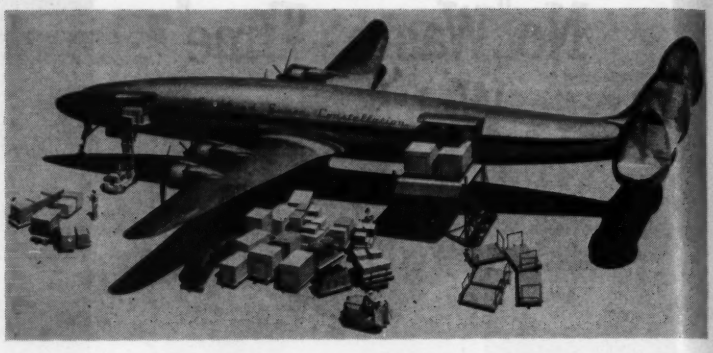
This type is applicable where power lines are brought to within 500-1000 ft from the face. These cars are powered by cables attached to an outlet at the end of the power source and operated on the regular electric engines. One limiting factor is the danger of damaging cable which contacts jagged rock, etc., when threaded around curves and bends.

PROBLEM: During the mining of bauxite, the ore is sometimes rocky, sometimes in a fine form. When the fine material gets wet, it becomes very sticky. A constant problem is to feed this ore (in its sticky form) through hoppers and chutes.

SOLUTION: Several suggestions were offered by the group. The use of vibrators (commonly installed for loosening semi-frozen material from hopper-bottom gondolas, and on chutes under silos) was considered. However with this type of material, it was believed vibrators would not do an adequate job, and might increase consolidation instead of relieving the condition. It was agreed, that water spray was sometimes able to resume the flow. Mechanical plungers and supersonic mechanisms, with which the group was not too familiar, were considered likely solutions. Another possible answer was the suspension of chains into hoppers, which could be manipulated to free the load. A final suggestion was the use of an arm, operating on the inside of a circular bin, and formed with chain driven teeth like a chain saw. This equipment, designed to break up the material, progresses around the bin through friction caused by its own drive.

Process Industry

The representative speaker presented two problems of material handling; each presented a special problem. The first concerned handling of activated carbon from kilns to crushers while the second dealt with the handling of nitrate of ammonia.



Here's the preview sketch of the world's largest commercial cargo transport, designed by Lockheed Aircraft Corp. The 65-ton freighter cruises at 330 to 340 m.p.h. and approaches 400 m.p.h. with lighter loads. The 84 ft long cargo cabin is equipped with a motorized conveyor chain to move heavy freight. The plane is expected to operate at five cents per ton per mile, lowest cost in air cargo.

PROBLEM: In the first problem, it is desired to handle activated carbon from the kilns to the crushers by some mechanical means, such as automatic conveyors. While it would seem to be a simple problem, it was complicated by the following conditions:

1. In the line of kilns, activated carbon is manufactured in granular form in various particle sizes.
2. The conveying equipment is expected to function under continuous production — 365 days a year.
3. The various meshes of carbon must reach the end of the line in an uncontaminated condition.
4. The carbon must be delivered to the crusher bins which are equipped with bucket elevators to feed further processing equipment. The automatic conveyors should be of a type that will permit the continued use of these elevators.
5. The conveyor system must deliver the product according to its originally intended form. In other words, the granular type must not be macerated or pulverized.
6. The product as delivered from the kiln becomes incandescent if exposed to air currents.
7. When delivered to the conveyor, the product would be dry but very slightly hydroscopic.
8. Ambient room temperature may be as high as 140 F deg.
9. Perhaps the greatest obstacle to be overcome is an exceedingly dusty condition, which may contaminate and render inoperative any conveying system unable to function in this atmosphere.

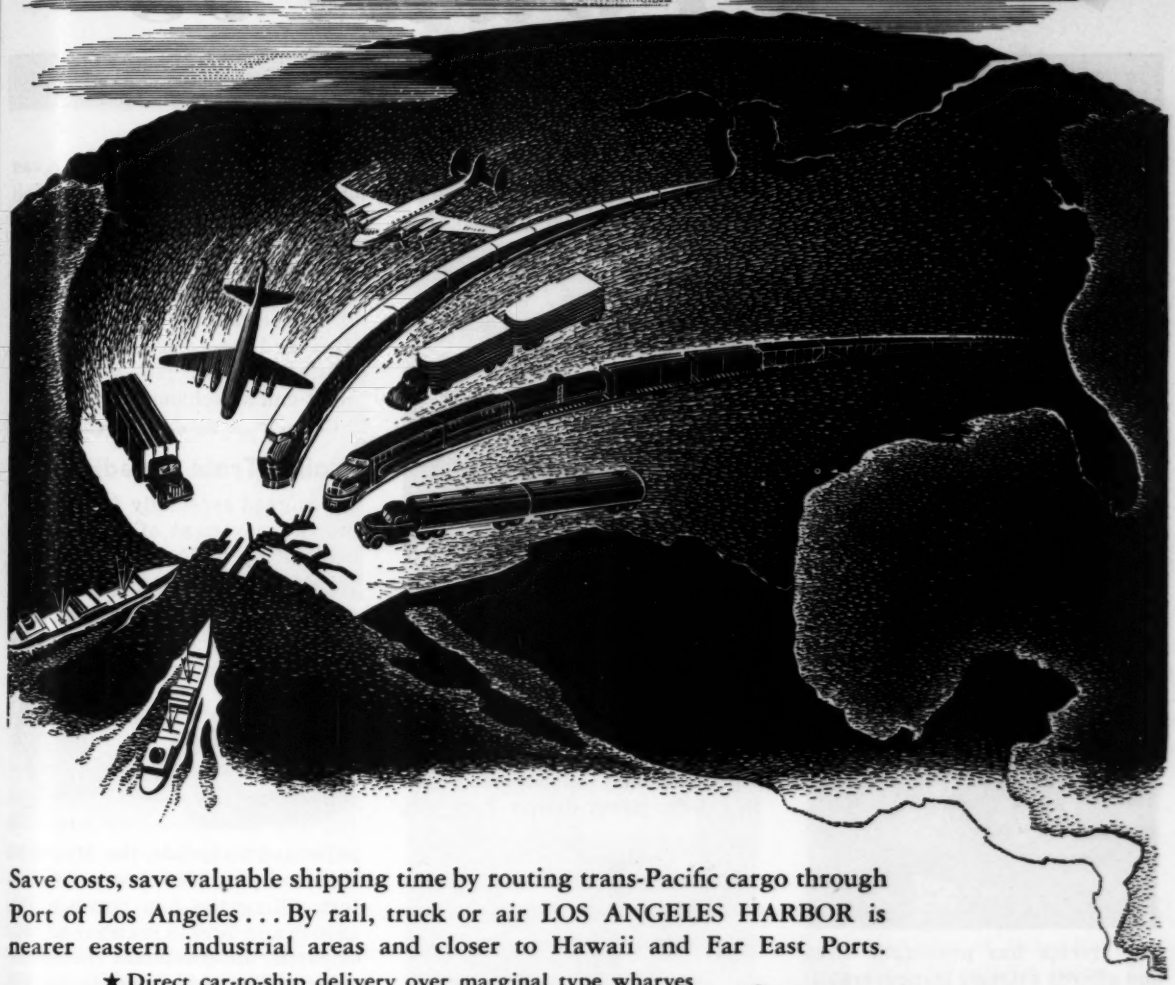
SOLUTION: Current practices were brought out during discussion. The present system of production and handling is manual; the product accumulates into drum-type containers and then is moved to the crusher bins. Manually, before transferring the product into the bin, its condition is checked and a production record made.

Because this method requires too many man-hours, automatic conveyance is required. It should be of a horizontal type. Its travel distance would be the length of the room, which is over 500 ft. The kilns are 21 ft wide, and spacing between each is five ft. The crusher bins are located in the same room in almost a central position. Any conveyor system offered must connect all kilns to permit continuous production.

Several suggestions were offered. One of these was the use of a zipper conveyor. The representative stated he was familiar with this type of conveyor but declared that dust would escape, and that the temperature of the delivered product made the idea unusable.

(*Please Turn to Page* 69)

Consign to Los Angeles Harbor for Trans-Pacific Shipping



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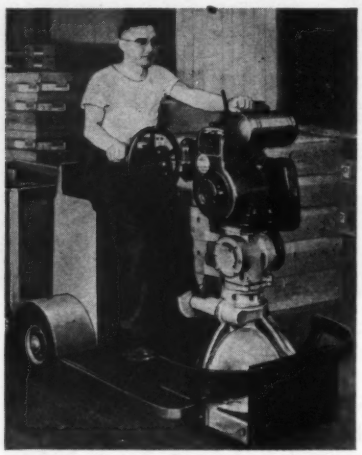
For Load Limit Problems

A new tractor model, designed to answer load limit problems on elevators, floors, docks and dockboards, from Truck-Man division of the Knickerbocker Co. This equipment is able to haul cargo trains of 13 times its own weight (990 lb) on dry, level concrete. It has a heavy-duty, air-cooled engine of 5.8 hp, said to work an 8-hr shift on about one gal of gasoline.



The tractor has pneumatic tires and affords extreme maneuverability with a power turret which revolves 360 deg.

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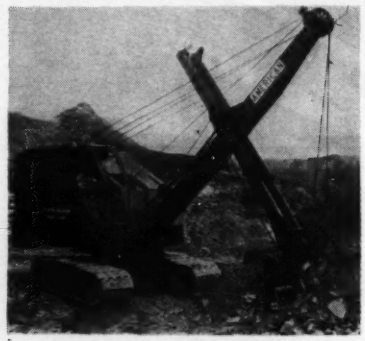
Heavy-Duty Crane

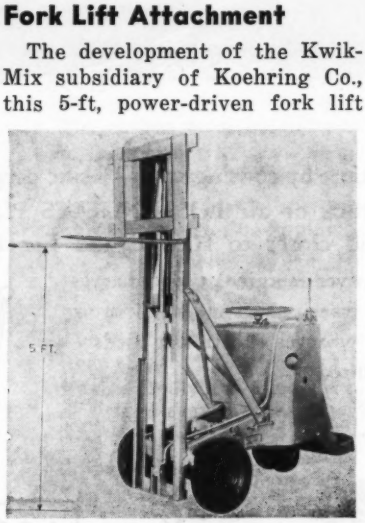
Designed for the heavier-uuty 45,000 lb class, this crawler crane of the American Hoist & Derrick Co., follows the pattern of previous company models in that the machinery platform is an integral rolled steel electrically welded unit, rather than the conventional cast center with bolted on walk-ways. The high speed boom hoist has a controlled lowering arrangement which controls boom radius, prevents dropping of the boom and permits controlled lowering by the operator.



Circle 2 on Readers' Service Card

Fork Lift Attachment

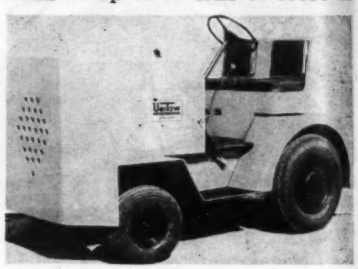
The development of the Kwik-Mix subsidiary of Koehring Co., this 5-ft, power-driven fork lift attachment is designed to meet special handling problems in shipping centers, industrial plants and construction work. The new MH device has a capacity rating of 1000 lb at a 15-in. load center, can climb a 12 per cent grade with full load, has a 61-in. turning radius, operates from a power-driven hydraulic pump, is 33 in. wide, weighs 1500 lb, carries 75 per cent of loaded weight on front drive tires and has the fork lift unit easily interchanged with other front-end attachments.



Circle 3 on Readers' Service Card

Trailer Train Expediter

Designed especially for expediting the movement of trailer train loads of up to 70 tons of loose or palletized materials, the Model 35 Unitow has a 3500 lb drawbar effort, filling the gap between the 1800 lb and 5000 lb drawbar efforts of earlier International Harvester models. The model measures 102 by 53 in., turns within a radius of 118 in. and is highly maneuverable in crowded aisles and narrow shipping docks.



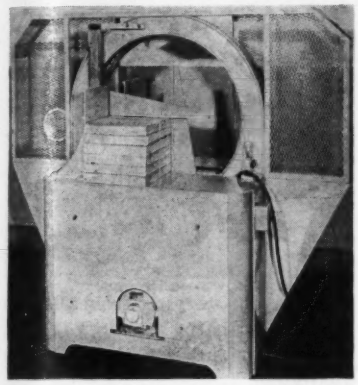
Circle 4 on Readers' Service Card

Automatic Packager

An automatic packaging machine, nicknamed the "girth wrapper," applies a complete wrap of pressure-sensitive tape around cartons, bundles of cartons, wood products and kindred items. All necessary tension is put on the

CARD . . . . .

wrap. The tape is cut automatically when each band is completed.

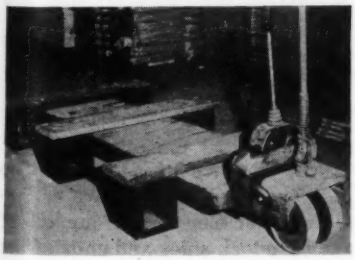


The Model G. W. will make five wrapping operations per min.

Circle 5 on Readers' Service Card

Skid-Type Bolster

Specially designed to handle skid-type bolsters, these units will handle plywood of lengths up to 12 ft, loads up to 8,000 lb and any long self-supporting items. The warehouser can get maximum utility of space by stocking like sizes closer together, eliminating unnecessary searching for the required sizes. Bolsters can be used according to the length of the load, requiring less room than conventional skid platforms.



Circle 6 on Readers' Service Card

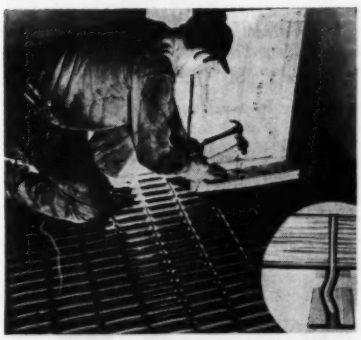
Drum Storage Rack

Engineers at Equipment Manufacturing, Inc., have designed a new drum storage rack for use by manufacturers, distributors and warehousers of paints, oils, chemicals and like products. Initial racks, engineered for 55-gal drums, are of welded square tubular steel, and permit stacking to ceiling heights with selection of any drum possible without shifting or disturbing its neighbors. Design permits removal by fork truck and horizontal position enables use of faucets for drawing off small quantities of liquid.

Circle 7 on Readers' Service Card

Replaces Trailer Floors

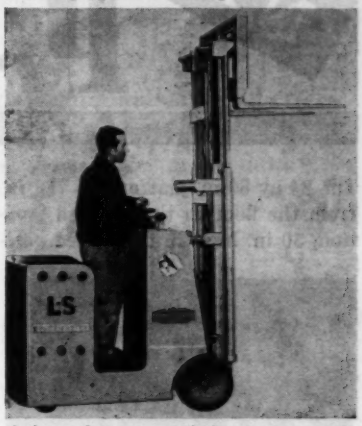
Truckers may replace their worn or unsuitable trailer floors with nailable Stran-Steel flooring, a system using parallel channels of high tensile steel which are welded together and to the chassis so that the deck aids in strengthening the chassis. The channels are separated by grooves into which nails may be driven to permit blocking.



Circle 8 on Readers' Service Card

Electric Fork Truck

A new electric fork truck from Lewis-Shepard Co. is specifically designed for docks, warehouses and terminals. It has a 59-in. turning radius for maneuverability in narrow aisles, added strength in lifting (50 F.P.M. loaded), and a hauling speed of 6 mph. The truck claims lower maintenance costs because of no grease points and no need for under-truck adjustments.



Circle 9 on Readers' Service Card

Mobile Crane Truck

A new line of mobile crane trucks, particularly adapted to handling heavy castings, machinery, bar stock, sheet metal packs and other irregular-shaped material in and out of flat, gondola or box cars, announced by Baker Industrial Truck Division of Baker-Raulang. With 19-ft telescoping booms, the units are adapted to locomotive stripping in the repair shop, erection jobs, dock, warehouse and general millwright work.

Circle 10 on Readers' Service Card

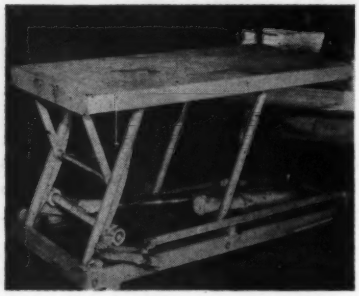
"Straight-Up" Lift

A new type of vertical hydraulic lift for material handling applications from Lange Lift Co., the unit has "straight-up" lift which makes it possible to reduce time by placing metal sheets, bars, pipes, rods and structural shapes into position for the fabricating machines.

DA NEW Products

Continued from previous page

The 24 by 60 in. platform is 7½ in. from the floor in the lowered position, 30 in. high in the raised posi-



tion. Lifting power obtained from foot-operated hydraulic pump built into base of lift.

Circle 11 on Readers' Service Card

Heavy-Duty Electric Brake

This five by 15 in. electric brake is suitable for heavy equipment users in the construction industry,

oil fields, steel mills, lumber factories and larger type machine tool industries. The manufacturer claims that the new brake will make it possible for many industries to convert to electrical "stop and start" equipment.

Circle 12 on Readers' Service Card

Wood Stacking Box

This K-D stacking box takes loads up to 500 lb, may be used as a stacking box, a stacking bin, stacking pallet, and is quickly and easily knocked down and bundled for shipping. The box is made of a heavy wood pallet and four interlocking wood side panels, held in place by four posts which slip-fit into angle sockets. Alignment angle cross bars support the box above and prevent slippage.

Circle 13 on Readers' Service Card

Industrial Trailer Caster

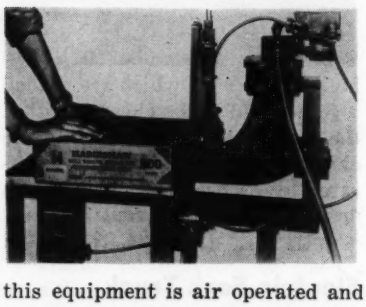
A new heavy-duty, high speed caster for industrial trailers, designed by the Lansing Co. to meet

demands for casters that will stand up under the longer, faster moves required of modern equipment.

Circle 14 on Readers' Service Card

New Stapling Model

An automatic model of the anvil carton stapling machine, from International Staple & Machine Co.,



this equipment is air operated and functions automatically when the operator presses the carton against the stapling hand. Adjustable for concealed stapling, the machine is said to make firm closures with fewer staples per unit area than any other known method.

Circle 15 on Readers' Service Card

Takes to Any Terrain

The Tracto-Lift is designed to meet the needs for a heavy duty fork lift that can operate on rough or sandy ground to provide faster and more efficient methods of storing concrete products or construction materials. Available in four sizes from 3000 to 6000 lb, the model has varying clearances on models from eight to 10 in., has

fork lengths varying from 30 to 60 in., and a lifting height of 12 ft 6 in. Various attachments are available.

Circle 16 on Readers' Service Card

New Cargo Basket

A new base available on this Cargotainer permits entry by all types of automatic trucks because

of the absence of a center strip leg. The mesh baskets are collapsible. When tiered, the four legs of the base lock sides and ends of the baskets to form one stack. In the collapsed form, five baskets require space cubage equal to one erected container.

Circle 17 on Readers' Service Card

FREE Literature

Information on latest booklets, manuals and other technical publications, text books and visual aids of value to you. Use post-paid card for more data.

CONVEYOR INFORMATION

A four-page, two-color bulletin with photos, application sketches, and complete specifications of the new Table-Veyor horizontal belt conveyor, from the Rapids-Standard Co., Inc. Bulletin shows application of product to assembly operations, sorting, order packing, checking, testing and inspecting.

Circle 21 on Readers' Service Card

UP-TO-DATE POSTAL DATA

Complexities of new and old postal laws are made simple in a new information book titled, "Postage Economies, Mailing Methods, and Envelope Facts." The 52-page book is class-indexed and covers First, Third and Fourth class mail, foreign and domestic mail.

Circle 22 on Readers' Service Card

NEW PACKAGING PAPER

A technical bulletin from duPont describes "Neoprene Treated Paper" which is suitable as a packaging paper. The paper, manufactured by adding a few per cent of neoprane rubber latex to paper pulp, is also usable as barrel lining and boxboard.

Circle 23 on Readers' Service Card

MOTOR INFORMATION

Bulletin GEA-5567, from General Electric, describes a new line of fractional horsepower motors embodying a new concept of motor design and manufacture; a 16-page, four-color bulletin.

Circle 24 on Readers' Service Card

MAGNETIC TOOL FACTS

Information on hand-operated magnetic tools adaptable for handling, loading, sorting and inspecting are described in bulletin M-30 from Multifinish Mfg. Co.

Circle 25 on Readers' Service Card

STEAM GENERATOR BOOKLET

A fully-illustrated booklet on the automatic self-contained Clayton steam generator, giving specific industrial applications to reduce costs while supplying a dependable volume of steam at constant levels of temperature and pressure. Use of single and multiple installations described.

Circle 26 on Readers' Service Card

HAND LIFT TRUCKS

Bulletin 5110 gives comprehensive information on current models of Barrett single stroke hand lift trucks. Eight-page, two-color publication with illustrations and charts.

Circle 27 on Readers' Service Card

PALLETIZED TOTE-BOX

A four-page brochure describes new type of palletized tote box, wirebound, collapsible, compact and easy to handle. Development of American Box Co.

Circle 28 on Readers' Service Card

FILMS

MATERIALS INSPECTION

Two films used for the training of naval inspectors of material have been made available to private industry. One concerns process control, the second, acceptance sampling.

Circle 51 on Readers' Service Card

THE RAILROAD'S ROLE

The Assn. of American Railroads has released a new motion picture portraying the railroads' role in the rearmament program and the part they play in fulfilling the military transportation requirements. Titled "Railroads and National Defense," film is 16mm kodachrome and runs 12 min.

Circle 52 on Readers' Service Card

LABELING MANUAL

A revised eight-page illustrated Technical Service Bulletin, "Round Container Labeling," published by Paisley Products. Sections deal with food container labeling, chemical product container labeling, government specification container labeling, and a description of labeling methods, spot labeling and wrap-around labeling.

Circle 29 on Readers' Service Card

REDUCING TIRE HEAT

How excessive heat from the shoulder area of a tire is reduced with skid control coils is described in a new bulletin from the Penetred Corp. Illustrated on-the-road tests show how the reader may make a simple test of the heat in truck tires after use.

Circle 30 on Readers' Service Card

TRACTOR TOOL CATALOGUE

A two-color catalogue from the Hyster Co. with pictorial and verbal description shows the practical application of tractor tools to multiply tractor uses and increase tractor production.

Circle 31 on Readers' Service Card

PALLET ROLLER BROCHURE

Ace Pallet Roller brochure contains Engineering Bulletins 102, 103 and 104, showing pictures of applications and operations and engineering data on sizes and capacities.

Circle 32 on Readers' Service Card

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BOOKS

DOMESTIC SHIPMENTS

A 208-page, paper-bound, illustrated volume on packaging, marking and loading methods for steel products for domestic shipments has been published as a companion piece for a volume for overseas commercial shipments. Commodity Standards Division, Office of Industry and Commerce, U. S. Dept. of Commerce; write Superintendent of Documents, Government Printing Office, Washington 25, D. C.; $.75.

"SELLING TO INDUSTRY"

A compact, pocket-size book which serves as a manual of practical ideas and suggestions for the sales engineer who wants to analyze and improve his methods of finding, contacting, selling and servicing industrial customers. The Industrial Press, 148 Lafayette St., New York City 13; $3.50, 255 pages.

PACKAGING DIRECTORY

The Packaging Machinery Manufacturers Institute's new directory covers makers of all types of packaging machinery; one section lists kind of equipment desired, the other gives names and addresses of machinery makers; PMMI, 342 Madison Ave., New York City 17; $10.

WEIGHTS AND MEASURES

The report of the 36th national conference on weights and measures lists officers, committees and persons attending. Among subjects reported: trading by weight, uniform regulations, weights and measures education and testing of railway track scales. National Bureau of Standards Miscellaneous Publication 202; write Government Printing Office, Washington 25, D. C.; 50 cents, 115 pages.

"THE INSIDE STORY"

Component parts and special features of Yale gasoline and electric powered fork lift trucks are illustrated and described in "The Inside Story." As each page unfolds, the fork lift truck is disassembled in sections exposing the component parts. Descriptive material points out the features and operation of each unit. Yale & Towne Mfg. Co., Philadelphia 15, Pa.; write above for more information.

MEN in the NEWS (Continued from Page 13)

Steven P. J. Wood has been elected executive vice president of the Warner Electric Brake and Clutch Co., South Beloit, Ill.

D. A. Brownlie has been appointed Western District manager in the San Francisco area for Unistrut Products Co., Chicago.

Packing and Packaging

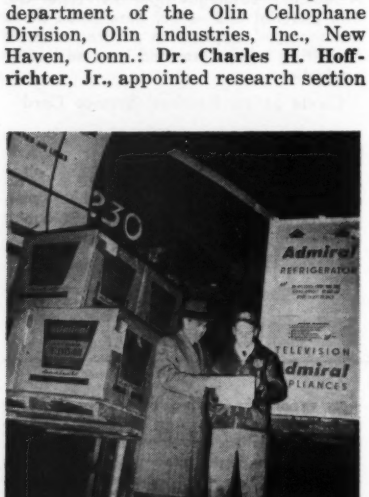
Arnold M. Johnson and **J. Patrick Lannan**, both of Chicago, have been elected new directors of the Automatic Canteen Co. of America, Chicago.

Joseph A. Sowell of the T. R. Miller Mill Co., Brewton, Ala., has been elected president of the Wirebound Box Manufacturers Assn.

These recent changes have been made in the executive personnel of General Box Co., Des Plaines, Ill. **N. W. Embry** has been elected chairman of the board of directors; **J. A. Cragwell** has been elected president; **Roy E. Welch** has been promoted to manager of the Kansas City division.

Henry Rust has been named division manager of the Robert Gair Co., Inc., in Bogota, N. J.

These recent changes have been within the research and development department of the Olin Cellophane Division, Olin Industries, Inc., New Haven, Conn.: **Dr. Charles H. Hoffrichter, Jr.**, appointed research section chief; **Dr. William E. Mydans**, in charge of evaluating marketable values of film properties; **Fred H. Olsen**, in charge of packaging development; **S. Jackson Wommack, Jr.**, film development section chief; and **Michael Karelitz**, chief, engineering section.



A television-refrigerator airlift order is checked by William Curtis (left), general manager for Admiral Corp., and H. Liebetrau, United Air Lines freight agent, before an over-night flight left Chicago. Special flights enabled simultaneous introduction of 1952 refrigerators and table model TV sets throughout the nation.

No, it won't fly. But, it is an early model White Truck with some unique rigging, used by the Piasecki Helicopter Corp., Morton, Pa., for testing helicopter parts. An extension was welded to the truck body and a rotor assembly was mounted over the cab. It is operated through the regular helicopter shafting gearbox with a 600 h.p. engine. The testing rig was operated for 1800 hours of high-power endurance to insure safety of the equipment

W. L. Patrick has retired as sales representative of the Case Bag Co. He has been succeeded by **R. F. Rhoden.**

C. W. Loomis was made a director and **F. V. Frederick** was named vice president at the annual meeting of stockholders and the board of directors of the Bemis Bros. Bag Co., St. Louis.

Edwin J. Spiegel, president of the Gaylord Container Corp., has been elected to the board of directors, Illinois Central Railroad, Chicago.

Warehousing

Louis Schramm, Jr., president of Chelsea Storage Co., has been named chairman of the warehousing division for the annual April Cancer Crusade.

Gordon E. Millott, Sandusky, Ohio, was elected president of the Mayflower Warehousemen's Assn. during the recent election of officers.

Donald J. Fleming, Youngstown, Ohio, was elected president of the Ohio Warehousemen's Assn. during the recent election of officers.

George G. Batterson, Rochester, N. Y., has been elected president of the Independent Movers' and Warehousemen's Assn.

S. T. Heffner has been elected president of the Illinois Assn. of Merchandise Warehousemen.

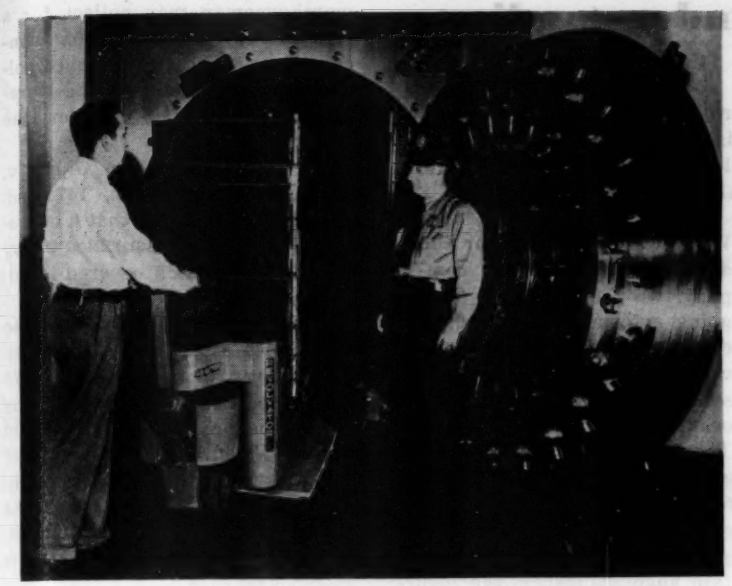
Transportation—Air

H. Templeton Brown, Chicago attorney, has been elected to the board of directors of United Air Lines.

R. E. S. Deichler, vice president of of American Airlines, has accepted the chairmanship of the Aviation Section of the 1952 Heart Fund drive.

Stanley D. Margerum has joined the R. M. Hollingshead Corp., Camden, N. J., as manager of special products for the industrial-aviation division.

The following appointments have been made within the organization of Slick Airways, Dayton, Ohio: **William K. Fowler** has been appointed assistant to M. C. Wilkin, vice president in charge of sales; **Charles F. Dworshak** has been appointed assistant to Henry P. Huff, vice president in charge of operations; **Edward L. Morgan** has been named western division traffic manager at Burbank, Calif.; **G. L. Bereman** has been named central division traffic manager at Chicago; **Chester H. Chiodo** has been named eastern division traffic manager at



Here's a new materials handling job—storing valuables and treasures from the possible danger of atomic warfare. An abandoned iron mine at Iron Mountain, N. Y., has been converted into a vault to house valuable items from banks, museums, industry, and federal and state governments. The Revolvator equipment moves material up and down slopes and ramps of as much as 19 deg to final safety behind the 4-ft door of the storage compartment

New York City; **Francis C. Thomas** and **Thomas E. Holt** have been named maintenance manager and sales manager, respectively, at the home office.

Robert L. Smith and **Norman L. Meyers** have been elected to the board of directors of the Flying Tiger Line.

—Rail

Union Pacific Railroad, Omaha, has made the following appointments within its traffic department: **William F. Nash**, assistant traffic manager at Los Angeles; **Frederick L. Morgan**, general agent, freight department at Omaha; and **Robert F. Pettigrew**, general agent, Salt Lake City.

Edward H. Burnell, Washington, D. C., has retired as vice president in charge of the finance, accounting, taxation and valuation departments of the Association of American Railroads after nearly 52 years of railroad service.

Frank M. White, Jr., has been named foreign freight traffic manager of the Baltimore & Ohio Railroad Co., Baltimore.

Edwin J. Spiegel, St. Louis, president of the Gaylord Container Corp., has been elected a member of the board of directors of the Illinois Central Railroad.

Arthur E. Baylis has been named assistant vice president, freight traffic, for the New York Central System.

Robert A. Cooke has been appointed chairman of the carload transportation committee of the Atlantic States Shippers Advisory Board.

Harry A. DeButts, D. J. Russell and **John W. Smith** have been elected members of the board of directors of the Association of American Railroads.

Sanford H. Keyes has been appointed to the new position of research engineer in the office of vice-president B. S. Vorhees of the New York Central System.

Howard H. Rath, president of the Rath Packing Co., has been elected a member of the board of directors of the Illinois Central Railroad.

Ernest H. Colby has been appointed manager plant operations, for Shippers Car Line Corp., subsidiary of American Car and Foundry Co., New York City.

Edwin W. Kush has been named sales and service representative for Great Lakes Steel Corp., Detroit, in the Omaha to Denver area. **Robert N. Close** and **Frank E. Ross, Jr.**, will represent the company in the southwestern railroad area.

—Water

Harold L. Herndon has been appointed district manager in charge of sales and service for the Cleveland district of Raytheon Manufacturing Co., Waltham, Mass.

Carl F. Moller recently celebrated his 40th year of service with the freight department of Grace Line, New York City.

—Highway

S. E. Biggs has been appointed vice president in charge of manufacturing and **James A. Nickerson** has been promoted to vice president in charge of credits by Trailmobile, Inc., Cincinnati.

Leonard C. Joyce has been appointed manager of operations for the Chicago terminal of Spector Motor Service.

Robert E. Shylin, sales representative of Central Motor Lines, was elected president of the Chicago Transportation Club at its annual meeting.

W. V. Brabham has joined Cumberland Motor Express, Cumberland, Md., as general manager.

Harry A. Grow, former cargo sales manager for Capital Airline in Detroit, has joined Blair Transit Co., Saginaw, Mich., as a member of the sales force.

James W. Dunbar, Springfield, Ill., was elected president of the Illinois Authorized Truckers Assn. at a recent meeting of the board of directors.

L. E. Tomlinson has been appointed western division traffic representative by Roadway Express, Inc., Akron, Ohio.

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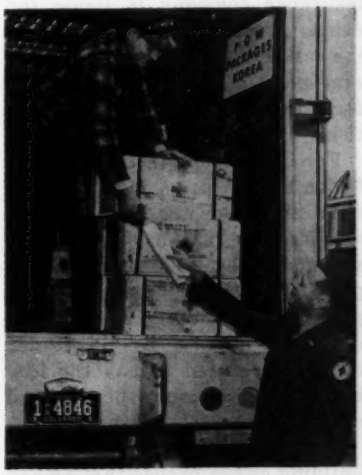

Papers on the first truckload of prisoner-of-war food packages enroute to Korea are checked at Oakland Army Base, Oakland, Calif., by Ross R. Warren (left), Pacific Intermountain Express driver, and American Red Cross Field Director James F. Hoffe. Warren is a veteran of World War II and the Korean war

. . . Caused by Misunderstandings

(Continued from Page 25)

insurance clause would be inserted. After a few years, when the policy was renewed without knowledge of the official of the corporation, the insurance company issued another policy which contained the co-insurance clause.

The warehouse was destroyed by fire and the warehouse corporation sued the insurance company for full recovery on the grounds that the co-insurance clause was fraudulently and without notice inserted in the insurance policy and that the general agent had verbally promised full protection.

In holding in favor of the warehouse corporation, the higher court said:

> "The jury found that there was fraud on the part of the defendant's (insurance company's) agent in inserting the co-insurance clause in the policies without calling the attention of the plaintiffs (warehouse corporation) to such insertion, and in leading them to think that no change had been made in this respect."

Vacancy Permit Extended

A late higher court held that an insurance company is liable for extension of a vacancy permit if the testimony proves that its general agent had knowledge and information of the desired protection.

For illustration, in Lankhorst v. Union Fire Insurance Co., 20 N. W. (2d) 14, the owner of a building was issued a "vacancy" permit for six months by an insurance company. The building was unoccupied for nine months when it was destroyed by fire. The insurance company refused to pay the loss because the vacancy permit had expired three months previously.

During the subsequent trial the building owner proved that he had instructed the general insurance agent to obtain from the insurance company a vacancy permit for one year.

During the trial the general insurance agent testified that it was his "intention" to get a vacancy permit for one year. In view of this testimony, the higher court held the insurance company fully liable for the loss, saying:

> "When we consider that Wood was the agent for the defendant (insurance) company, we feel that the foregoing evidence is sufficiently clear, satisfactory, and convincing, to warrant a conclusion that a mutual mistake occurred. . . ."

Therefore, according to this higher court, if a property owner informs a general insurance agent regarding the kind of insurance desired and the agent promises to obtain such insurance, the insurance company must pay the loss irrespective of the protection afforded by the policy.

Personal Liability of Agent

According to a late and leading higher court decision, an insurance agent or broker is personally liable for a loss resulting from his negligence, if the insured cannot collect from the insurance company. This same rule of law is applicable to all other interested parties as warehousemen, whose negligence results in a financial loss.

For example, in Meislman v. Wicker, 30 S. E. (2d) 318, it was shown that one Wicker, a bailee, as a warehouseman, agreed in this contract to insure the equipment belonging to one Meislman through an insurance broker, against loss by fire and storm, but he neglected to obtain the promised insurance.

The equipment was destroyed by fire, and the higher court held Meislman entitled to recover his full loss from Wicker.

This higher court held that all insurance agents and brokers are personally liable for their failure and neglect to comply with a promise to obtain desired insurance. See Clam, 182 N. E. 599, 18 A.L.R. 1210.

According to a late higher court decision, failure of a warehouseman to fully comply with provisions of an insurance policy renders the policy void, so far as the warehouseman may collect for a loss. Moreover, the fact that noncompliance with an insurance policy is unintentional by the warehouseman does not render the policy valid.

For illustration, in Gipps v. Central Insurance Co., 147 Fed. (2d) 6, it was shown that a corporation held a fire insurance policy for $298,000 which covered buildings and stored goods therein.

The policy contained a clause to the effect that the corporation would give immediate notice in writing to the insurance company of any loss or damage, and would furnish a complete "inventory" of the destroyed, damaged and undamaged property, stating the quantity and cost of each article, and the amount of insurance claimed thereon.

The company had a fire loss and immediately sent to the insurance company a written "estimate" showing a total amount of loss of $119,790.79. In this account of estimated loss the company included 43,194 cases of bottles valued of $29,717. Later the testimony proved that these cases of bottles were not stored in the building when the fire occurred.

The higher court held that the preliminary estimate, although practically equal to an inventory required in the policy, did not comply with the terms of the policy. Also, the court held that for this reason and also because the corporation included in its "estimate" 43,194 cases of bottles not destroyed, the insurance company was not liable for payment of the loss.

This was so although the court admitted that the company did not wilfully or intentionally defraud or attempt to defraud the insurance company. See 186 Fed. (2d) 357, in which the higher Federal court approved this verdict.

Must Comply with Contract

For comparison, see Barrett v. Freed, 35 Atl. (2d) 180. Here it was shown that a warehouseman accepted household goods for storage, and issued a receipt limiting his liability to $50 in case the goods were destroyed by fire. An insurance policy was held by the

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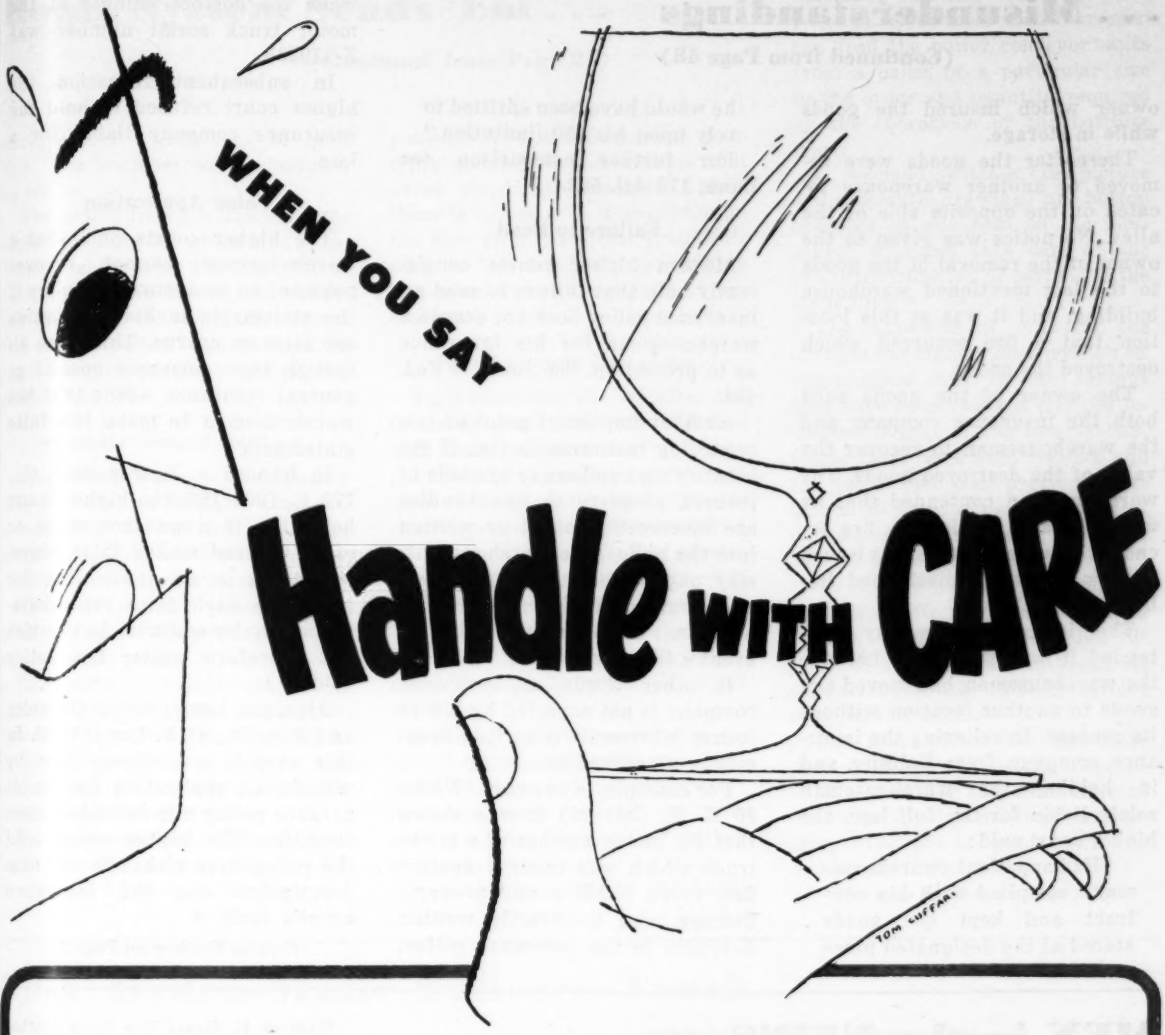

...Lehigh Warehouse *DOES!*

Physical damage claims for Lehigh Warehouse last year were only $1,576.23, on a volume of 762,500 tons handled in and out. Value of the merchandise customers stored with Lehigh was approximately $275,000,000.00, including liquors, food products, drugs, paper, chemicals, tobacco, glassware, plastics, appliances and machinery.

This record of *under one thousandth of 1%* in damages was due to these factors: First, mechanized materials handling. Second, experienced manpower. Third, and highly important, the Lehigh technique of warehousing . . . supervision for safety in unloading, stacking, palleting and trucking and in every handling operation.

Whether you store and distribute bottled goods or iron pipe, when you say "Handle With Care"... Lehigh Warehouse *does!*

Ask for details of Lehigh warehousing and distribution services.

Lehigh Warehouse & Transportation Company

98 Frelinghuysen Avenue, Newark, N. J.

Lehigh Lackawanna WAREHOUSES & DISTRIBUTION

Newark • Port Newark • Brooklyn • Jersey City • Elizabeth • Richmond, Va. • Horseheads, N. Y.

Circle No. 124 on Readers' Service Card for more information

. . . Misunderstandings

(Continued from Page 48)

owner which insured the goods while in storage.

Thereafter the goods were removed to another warehouse located on the opposite side of the alley. No notice was given to the owner of the removal of the goods to the last mentioned warehouse building, and it was at this location that a fire occurred which destroyed the goods.

The owner of the goods sued both the insurance company and the warehouseman to recover the value of the destroyed goods. The warehouseman contended that he was not liable for loss by fire because the warehouse receipt issued by him expressly disclaimed liability for such loss.

The insurance company contended it was not liable because the warehouseman had moved the goods to another location without its consent. In relieving the insurance company from liability and in holding the warehouseman solely liable for the full loss, the higher court said:

> "Had appellant (warehouseman) complied with his contract and kept the goods stored at the designated place he would have been entitled to rely upon his $50 limitation."

For further comparison see Lunn, 178 Atl. 563.

Failure to Read

Modern higher courts consistently hold that failure to read an insurance policy does not excuse a warehouseman for his ignorance as to protection. See Jones, 4 Fed. 404.

Another important point of law regarding insurance is that if the identifying numbers or symbols of insured property or merchandise are incorrectly copied or written into the policy, the warehouseman may pay premiums to the insurance company for many years, but he cannot collect on the policy in event a loss occurs.

In other words, an insurance company is not expected by law to insure incorrectly described property or merchandise.

For example, in one case (White, 80 N. E. (2d) 20) it was shown that the motor number of a motor truck which was insured against fire, theft, liability and property damage, was incorrectly written X-179285 in the insurance policy, when the correct number of the motor truck serial number was X-179385.

In subsequent litigation the higher court refused to hold the insurance company liable for a loss.

False Application

The higher courts hold that a warehouseman cannot recover payment on an insurance policy if the statements in his application are false or untrue. This is so although the company's special or general insurance agent told the warehouseman to make the false statements.

In Rhodes v. Metropolitan Co., 172 F. (2d) 183, the higher court held that if a warehouseman or other insured makes false representations in an application for insurance such false representations may be material to the risk and therefore render the policy void.

Also, see Lee v. Aetna Casualty and Sur. Co., 81 F. Supp. 1008. In this case it was shown that by mistake an application for an insurance policy mis-described merchandise. The higher court held the policy void although the misdescription was the insurance agent's fault. •

(Resume Reading on Page 26)

MEN in the NEWS

(Continued from Page 47)

William A. Burns, Jr., has been named president of Trailmobile, Inc., Cincinnati, a subsidiary of Pullman Inc. He was formerly vice president and general sales manager.

Howard E. Harris has been promoted to district service foreman of Pacific Intermountain Express, Oakland, Calif.; **Earl J. Brooks** has been named the company's assistant traffic manager.

David J. Miskey has been named traffic representative in the Philadelphia area for Branch Motor Express Co., New York City.

Paul J. Motto will be the manager of the new branch plant at Wallingford, Conn., for Fruehauf Trailer Co., Detroit.

Louis E. Pfeffer has been named Indianapolis terminal manager for Spector Motor Service, Chicago; **Arthur Hoelzer** will head operations at the Farmington terminal.

Ray E. Dielschneider has been promoted to special field representative by the West Coast Fast Freight, Inc., Los Angeles.

Lloyd W. Hully, International Harvester of Chicago's motor truck district sales manager in Indianapolis, has retired following 26 years' service with the company.

Robert Forman has been appointed manager of the permit department of Allied Van Lines, Chicago.

William J. Arndt has been appointed chief highway engineer for the American Trucking Assn.

William E. Grace has been elected president of the Truck-Trailer Manufacturers' Assn.

J. Charles Cavanaugh has been named new traffic representative for the Newark, N.J., area by the Branch Motor Express Co., New York City.

Fruehauf Trailer Co., Detroit, has made the following appointments: **Thomas Cartee,** branch manager at Sioux Falls, S. Dak.; **Ray Stutzman,** branch manager at St. Paul, Minn.; **L. B. Shettle,** branch manager at Sioux City, Iowa.

L. F. Mannesschmidt has been named manager of the Philadelphia branch factory by Trailmobile Inc., Cincinnati. **Richard P. Kramer** has been appointed manager of the company's new sales training department.

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Roma System Sends 'Em . . .

(Continued from Page 21)

conveyors on trestlework to each line. The switches were connected in series.

The switch for each line was controlled by a button which was numbered the same as the line it fed. One man on the mezzanine, watching the power conveyor, can change the course cartons are to take so that the proper size reaches the proper line.

Solenoids Control Routing

The switches are so constructed that the cases go straight when the solenoids of the switch are energized and make a turn when the solenoids are not energized.

There is a brief pause at the feeding point of the power conveyor as one empty pallet is removed and a full pallet is substituted. This provides the switchman ample time to work the switches between sizes, or to swing from one line to another when two or more lines are using the same size.

The final combined result of these improvements is direct flow. Traffic in and out of storage has been accomplished without manual handling and with a convenience that saves on time consumed. Now, there is no pause or interruption in the flow from the glass producer's dock to the head of the bottling line when the entire plan is in operation.

What System Has Done

To summarize the results, the following had been accomplished with the new system:

1. Manual handling of cartons upon arrival and the long conveyor rides to storage were eliminated; a lift truck now unloads and carries the cartons, two pallet-loads (128 cartons) at a time, into storage;

2. Manual handling into and out of storage has been wholly eliminated through the use of lift truck handling;

3. Glass breakage, which occurred occasionally with unit handling, has been reduced completely; the cases show none of the wear and tear under the previous method of manual handling;

4. A lift truck feeds the pallet unloading station from storage; two, and never more than four, men can feed the power conveyor units from a pallet of a particular size in the order and quantity required by the operations of the bottling lines;

5. Solenoid switches (see picture and schematic drawing) are button operated by one man on the mezzanine who can take care of the entire distribution of cartons to the eight lines.

The expense of making the changes has already been written off many times over by the savings that have been realized and the increased output of the new system. Labor costs have been reduced and the labor that was previously required all day for unit handling of cartons is now available for other jobs in the warehouse.

"If applied materials handling is to produce effective and economical results," Nosworthy concludes, "it must be a smooth plan although its establishment may initially involve considerable expense."

The Roma Wine Co. has more than justified the initial expense with a smoother and more efficient operation that has produced impressive reductions in labor costs and manpower units. •

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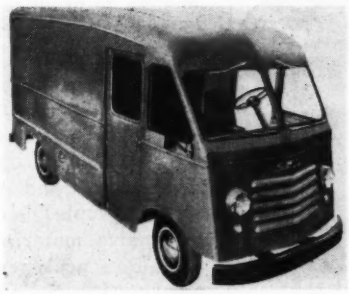
GMC Hydra-Matic Delivery Truck



THE GMC parcel delivery truck, shown publicly for the first time at the Chicago Automobile Show in February, is the first commercial truck model equipped with a fully automatic transmission.

The new truck has dual-range hydra-matic drive as standard equipment. This equipment provides three speeds for city driving and four speeds for suburban and country traffic.

Trend in Truck Field

"Introduction of the fully automatic transmission into a commercial truck answers a long-sought need for many truck owners," Roger M. Keyes, vice president of GM and general manager of the company's truck and coach division, announced. "This model is the first in a trend toward this type of power transmission in the trucking industry."

The GMC truck division placed a hydra-matic drive last year in its M-135 six by six military truck. The military equipment has been in the production stage since last September. •

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. . . Checklist

(Continued from Page 27)

ly and courteously to the company's customers.

1. Is paper work on orders handled exactly as specified by the occupant?

2. Are orders time-stamped when they come in and when they go out to be sure orders are being filled in shortest practicable time?

3. Does your filling require an excessive amount of time because items that are usually ordered together are not stocked together?

4. Are fast turnover items in the most accessible spots?

5. Are handling areas big enough for efficient order assembly?

6. Are warehouse communications sufficient to permit voice control throughout the processing of an order?

7. Are shipments handled carefully and occupants' customers treated courteously?

8. Is the warehouse superintendent the right man? Is he a good organizer and a good expediter?

Marginal Services

It is easy to let increasing handling costs creep up to the point that an operation is no longer profitable. Analyze marginal services.

1. Is the minimum amount specified for small orders still large enough to produce a profit?

2. Are local cartage operations still profitable?

3. Do you still make a withdrawal charge? Does it cover the cost of the transaction?

4. Can any economies be made in packing and crating? Could fewer people do it? Could less expensive materials be used?

5. Do pool car distribution charges pay their way?

Layout and Space Use

Space at today's construction or rental costs is expensive. It must be used efficiently in both directions, vertically and horizontally.

1. Can any items be tiered higher than they are now? Even fragile items and odd-shaped items can be tiered to the ceiling if pallet racks or frame type pallets are used.

2. Can the width of aisles be reduced? The use of narrower and more maneuverable equipment might make possible a substantial space saving.

3. Could balcony storage be employed for slow-turn, seasonal items?

4. Can the size of any of these areas be reduced: warehouse office? Handling areas?

Housekeeping

Customers often want to see for themselves that the warehouse is well operated, clean, and physically suitable for the storage of their products.

1. Does the external and internal appearance of your building induce business? How about the paint condition? The building sign? The entrance to the warehouse?

2. Are occupants and prospective occupants favorably impressed by the way you stock their products?

3. Are floors in good condition? Is order assembly being slowed down or items being damaged as a result of floors that need repairing?

4. Are locker and washrooms well kept? Are they conducive to good morale?

5. Is warehouse lighting sufficient and well maintained? Poor light has been responsible for many wrong shipments.

Protection

Proper protection of merchandise is an item of vital concern to tenants.

1. Do you have plenty of fire extinguishers? Are they well placed? Is the sprinkler system in good shape? (Sprinkler leaks are costly.)

2. Is water damage a possibility? Check roof conditions, seepage through walls, drain pipes, window lights and sewers.

3. Are any floors overloaded? A building collapse is extremely expensive because negligence is usually involved, and the insurance company will not pay where there is negligence.

4. Are your precautions against theft adequate? Are doors locked promptly and with proper locks? Are accessible windows barred?

Is the alarm system adequate? Is the night watchman really doing his job?

5. Have you reduced pilferage to the minimum? Are pilferable items segregated and enclosed? Are unauthorized persons kept out of the warehouse?

6. Are all handling operations safe so far as hazard of personnel injury is concerned?

7. Are perishable, inflammable and other special handling items given the atmospheric treatment and other special considerations they deserve?

8. Are you doing everything you should to fulfill your obligations so far as insurance is concerned? Neglect is fairly easy to prove in court.

Planning for the Long Haul

Continuity and stability for the long haul are paramount. To achieve them, planning must be thorough and continuing since public warehouses are hit so forcibly when distribution methods are changed.

1. Do you study sales patterns constantly, and change your setup to fit changing distribution patterns?

2. Are you geared to receive and ship a preponderance of merchandise by either rail or truck? See-saw rate changes among carriers make this almost mandatory.

3. Are your personnel picked and trained with an eye for the future?

4. Is your advertising and public relations efforts well conceived, effectually administered, and bringing results?

There is a national shortage of suitable warehouse space. The government is constantly introducing new warehousing needs, such as the decentralization of business records. More and more private companies are in the market for public warehouses as a result of their realizing that it usually costs more to fight handling problems in an old, dilapidated building than it does to move to new quarters.

The overall demand for good, heads-up public warehousing is great. Can you cash in on the opportunity? •

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. . . Costs Reduced $600

(Continued from Page 33)

trols the movement of the goods coming from each line into the outgoing trucks.

Treppendahl makes these conclusions following the first few months of the renovated Seven Day operation: "Since installing the conveyor system, out operations are smoother, easier and much more efficient. This system has solved our warehousing problems, while giving us very substantial savings over our former method of handling. Because stock moves systematically, we can easily keep our warehouse neat and uncluttered although we're now handling 25 per cent more goods."

Seven Day Grocery is a two-floor operation, but it is an example of large-scale warehousing operations on the smaller, local level with the same returns in efficiency and economy. •

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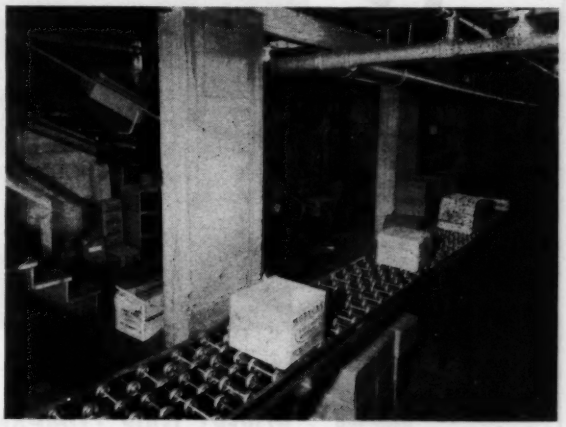
Checker in booth controls movement of goods. Stock from the basement joins items picked from first floor stacks.



The junction where conveyor lines merge to transfer goods to a belt leading to upper floor can be seen (upper, right).

. . . How They Overlap

(Continued from Page 34)

stances, the basic conceptions of transportation economy as outlined in existing classifications and rates.

He is right to question. I will try to outline and analyze how those questions should be resolved. First, let us establish the true "areas" where such questions of economy and practice are in existence.

Overall Cost Area

The words, materials handling, transportation, and packaging are being combined at this time to embrace an overall area of cost in modern industry. A particular group sponsoring a discussion of these operations will emphasize its personal interest approximately as follows:

MATERIALS HANDLING, transportation, and packaging.

Materials handling, TRANSPORTATION, and packaging.

Materials handling, transportation and PACKAGING.

The area of cost is the same. The area of activity is the same. But, the emphasis on the importance of one to the other, is selfish. The results of considering problems under selfish viewpoints are, too frequently, poor economy.

For example, "Requests for Change" by the materials handling department, many times result in materials handling savings, at the expense of greater increases in freight or packaging costs.

Similarly, "Requests for Change" by the traffic department, many times result in freight savings, at the expense of greater increases in handling or packaging costs.

Likewise, "Requests for Change" by the packaging engineer, many times result in packaging savings at the expense of greater increases in handling and freight costs.

This reasoning is not pure theory. You either have such instances at hand or can easily find them, if you look for them.

Because all three activities contribute to the continuity and cost

of material flow, and because the closeness of their relationship has been highlighted in recent years by the contributions each has made to the lowering of costs, the terms "materials handling, transportation, and packaging" will continue to be used very extensively.

Management is giving more and more of its organized attention to this overall unit-area of cost. Technical societies are combining the three activities for the purpose of study and report. Trade journals and business magazines are reporting on the lowering of costs in the overall handling, transportation and packaging of materials, as well as in the specific activities.

However, no wheel is any stronger than any one of its spokes. No progressive control and/or lowering of costs can move forward without a knowledge of the separate costs; the ratios of those separate costs; and the causing-factors behind each type of cost.

Those of us on the line-of-flow, where materials move, have to know where transportation begins and handling leaves off; where transportation begins and packaging leaves off. We have to be able to evaluate, correctly, the majo items of cost and effective service; and must constantly recognize the contribution each activity is making.

The true essence of materials handling service is having the material when it is needed, where it is needed, and in the right condition. The original and subsequent placement at other points of use is made by the materials handling activity. So, the whole measure of service sometimes tends to be considered from the materials handling viewpoint:

If it isn't there when it is needed —the traffic department didn't get it in on time.

If it isn't in the right condition—the material wasn't packaged properly.

You can see how easy it is for materials handling to be considered as the kite—while transportation and packaging constitute the tails on the kite.

The foregoing general analysis of conceptions and conditions has been reviewed to establish the human element or the human tendency.

Now, I will attempt to establish a more factual and scientific consideration of the foregoing issues. To start, let us establish, through assumption, several pertinent points:

1. There is a science of materials handling.
2. There is a science of traffic.
3. There is a science of packaging.
4. The costs of each can be segregated.
5. The areas of overlap can be explored separately.

In other words, the depth to which we explore the effectiveness and costs-of-service, the detail of our study, and soundness of our findings, are all at our discretion. If we can find our answers with a broad consideration of materials handling, transportation and packaging costs, our exploration does not need to be too conclusive in detail.

(*Please Turn Page*)

If, however, our answers lie (and they usually do) deep in the consideration of the overlap areas, and within several categories of cost, then we have to dig deep and study hard.

The accompanying chart establishes these overlap areas.

Referring to the chart, assume that each of the three activities has specific entities of its own, while the total area of cost, or total area of expense, is generally established as a single overall unit. Their separateness lies in the fact that each has a science of its own.

The science of materials handling is the selection, arrangement, and use of employees and facilities to the advantage of low costs and effective service.

The science of traffic is the selection, arrangement, and use of classification, routings and lading methods to the advantage of low costs and effective service.

The science of packaging is the selection, design and use of containing-protecting mediums to the advantage of low cost and preservation of material quality and convenient handling.

These segregations, due to the specific differences in the sciences involved, have resulted in the separation of responsibility to different departments: the Materials Handling Department, the Traffic Department, and the Engineering Department (Packaging).

The overlap areas shown on the chart are the points where coordination, cooperation, and mutual consideration of all factors, operations and costs are necessary. This being so, let us take a specific problem and try to resolve an approach for solutions which are satisfactory and economical.

Dock Practice Problem—Here we tie-up rail and truck facilities to the advantage of lower handling costs. The cause-factor of this problem is varying dock-work-volume.

Weekend carryover for Monday unloading results in a "Monday problem." Vendors, scheduled on a monthly delivery basis, ship as soon as possible after the first of the month. Also, vendors ship as much as they can, just prior to the end of the month, to increase their total of business for the current month. Carriers (truck) "hit" the dock as early in the morning as possible to be unloaded and be on their way for more payloads.

So what? That is the receiving department's grief, not the traffic department's! Maybe, but let's see!

Modern industrial, competitive pressures require that all departments of a business reduce and control their costs. The receiving department (part of the material-handling department), under this pressure, reduces its payroll for emergency or for peak loads, and retains more of an average payroll. What happens is best shown in carrier practices (truck), where the carrier leaves his "bottoms" and goes on with his tractors to payload movement.

Plant Expansion

White Motor Co., new $750,000 regional headquarters, San Francisco, Calif.

Clipper Carloading Co., two new loading terminals, Boston, Mass., and New Haven, Conn.

Olin Industries, Inc., advanced research and development laboratories for packaging films, Pisgah Forest, N. C.

Haeckl's Express, new terminal and general office building, Hamilton, O.

United Air Lines, addition to passenger station, at Chicago's Midway Airport.

Robert Gair Co., Inc., new shipping container plant, Teterboro, N. J.

Bekins Van & Storage Co., furniture depository and terminal, Redwood City, Calif.

Spector Motor Service, Inc., new 125,000 sq ft trucking terminal, Chicago.

Morris, Wheeler & Co., Inc., acquired Industrial Monorail & Conveyor Co., division of W. H. Sink Iron Works.

Caterpillar Tractor Corp., planned expansion of units in East Peoria and Joliet, Ill.; new plant in York, Pa.

Ben Gutman Handling, Inc., new dock with railroad and truck facilities, St. Louis.

P. B. Mutrie Motor Transportation, Inc., new general offices and terminal, Waltham, Mass.

Independent Truckers, Inc., new terminal and general office, Omaha, Neb.

Central Freight Lines, Inc., now occupying new terminal, Dallas, Texas.

General Box Co., new general offices and laboratory, Des Plaines, Ill.

Unistrut Products Co., opening of western district office, San Francisco, Calif.

Packard Motor Car Co., five-story building for showroom, warehouse and service parts center, Philadelphia, Pa.

The basic result is higher costs of transportation. Now, just where do we go from here? You will point your finger directly at the materials handling and traffic authorities and say, "Something can be done."

I agree. In my experience, "something has been done."

In the first place, we made a very conclusive study of purchased receipts, inventory requirements, and vendor delivery schedules. We assumed that any fundamentally sound program would have to ask the material control, purchasing and traffic departments for a more extensive control program.

There was very little the materials handling department could provide, with the exception of better facilities. (Better facilities are a capital investment issue, and are not always forthcoming until after a control-program has proven its effectiveness.)

Our studies and surveys indicated that only about 15 per cent of our vendors caused 90 per cent of our problem. We established the need of two basic requirements:

1. Specific dates for those vendors to ship.
2. Specific carrier routings for arrival timing.

The essence of our ultimate success was, "Together we stand, divided we fall!" Together we succeeded where divided we would have fallen.

The new arrival schedules were not perfect, but they were good enough to take the edge off the dock-service problem.

We did not need to have "bottoms" left for unloading when and if we could get at them. We did not need to carry a heavy car demurrage overbalance. We coordinated and cooperated to the degree that the resulting performance reflected that a sufficiency of change ha been worked into the overlap area.

Our one example of applying th principle of coordination and cooperation to one overlap item can be applied to the others in the same manner. It will work, too, if you are willing to concede that knowledge of the whole issue is paramount. •

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within the LAW

By Leo T. Parker *Legal Consultant, Distribution Age*

TRANSPORTATION

Recently an official of a distributing corporation asked these questions: "What legal rule can we go by to determine whether an injured employe can sue us and recover damages for his injury? Can an insured employe sue for damages instead of accepting workmens' compensation? If an employe is injured through his own neglect can he receive compensation under the State Workmen's Compensation Act? Under the same circumstances, can he sue our company for damages?"

Modern higher courts consistently hold that an employe may recover compensation, under the State Workmen's Compensation Act, for an injury sustained while he was acting within the scope of the employment. But no employe or other person is entitled to damages from his employer unless the injury resulted from negligence of the employer.

Needless to state, we know that this general statement does not satisfy this reader. And, so for the benefit of readers, we shall review late and leading higher court cases which differentiate between damages and compensation suits.

Employers must conform with all provisions of insurance law

The average official believes that when an application for insurance is accepted by the State Industrial Commission the company is protected against any and all suits by injured employes for damages. Nevertheless, it is well known among law experts that under various and many circumstances, the State Compensation Laws only partly accomplish the desired and intended purposes.

For illustration, in a recently decided case, the higher court said that the purpose of the Legislature, when enacting State Compensation Laws is to provide reasonable compensation to injured employes, or dependents of employes killed while performing their work, whether or not the accident was caused by negligence of the employer. and also to accumulate funds from premiums paid by employers with which to pay compensation and thereby guarantee employers protection against expensive law suits for damages.

Another higher court very recently pointed out that the laws of all states provide that all employers who post notices in their place of business, stating that they have industrial or compensation insurance, "shall not be sued" by injured employes, or their dependents, for damages.

The importance of this law is that if the employer forgets to post these notices, or the Industrial Commission fails to send the notices to the insured employer, the employer is guilty of violating the law and the employe need not accept compensation payments for his injuries but he can sue for damages. The law books are full of suits filed by employes against employers who fail to conform strictly with this particular provision of the law.

Employe compensated only for injuries incurred on the job

All employes assume the natural and obvious dangers of their work, with special respect to damage suits against their employers. Hence, while an employe can recover compensation under the State Workmen's Compensation Act for injuries sustained while doing dangerous work, within the scope of his employment, he cannot sue and recover damages from his employer.

Generally speaking, the courts expect employers to notify employes of any unusually and known dangers, of which the employes have no information or knowledge. See Dobbie v. Pacific, 273 Pac. 630. Failure of the employer to do so entitles the employe to sue for damages.

All higher courts agree that an employe who sustains an injury within the scope of his employment may recover compensation under the State Workmen's Compensation Act, although the injury resulted from the employe's negligence.

Examples of when an employe is within scope of employment

An accident does not arise "within the scope of employment" when it occurs while the employe is doing something entirely different from his regular employment, or when he is on his way to work unless the employer furnishes transportation to the place of work. Here are several higher court decisions which illustrate when an employe is within the scope of his employment: Robertson v. Olson, 181 Minn. 240; Here the employe was riding in his employer's motor truck. Elliason v. Western, 202 N. W. 485; Here the employe was returning to his employer's place of business in a truck furnished by the employer. Schmitt v. American, 42 S. W. (2d) 969; Here it was the duty of an employe to leave his home early and perform services for his employer before reporting to the employer's place of business. The accident happened while the employe was traveling from his home to his employer's place of business. Kuehmichel, 145 N. W. 788; Here the employe was working under the employer's control, outside the employer's building, but during the period covered by his employment. Auer, 103 N. J. Law, 372; Here the employe was authorized by the employer to use his own automobile, and his employer paid for the upkeep and running expenses of his car. Wilson, 134 A. 611; Here an employe was shot while working for his employer. White, 137 N. E. 624; Here the workman left his work to get a drink of water.

In all these cases the injured employe was entitled to recover compensation under the State Workmen's Compensation Act. Also, see Passmore v. New Amsterdam Co., 147 Fed. (2d) 536; This litigation involved death of a company's employe who fell off a motor truck while returning to the company's headquarters and place of business in the company's truck after work. The testimony showed that the employe had worked all day for the company. The employes were not paid for the time consumed in riding to and from the place of work. But the higher court held the employe entitled to compensation under the State Workmen's Compensation Act.

Compensation v. Damages when employer complies with state laws

Modern higher courts consistently hold that an employe who files an application with the Industrial Commission for compensation under the State Workmen's Compensation Act, cannot also sue his employer for damages. However, numerous employers and officials of corporations *unintentionally* forfeit rights to protection against suits for damages by injured employes by failure to comply with state laws. A review of compensation laws in different states discloses that employers who have faithfully paid State Compensation Insurance premiums for many years may be sued for damages, instead of the employes being compensated, if the employes were injured either "wilfully" by the employer, or because the employer in some manner failed to install legally required safety devices or failed to comply with "lawful requirements for the protection of the lives and safety of employes."

Failure to comply wth "lawful requirements for the protection of the lives and safety of employes" means that the employer did not provide safety devices. guards, or other structures required by state laws.

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MEN in the NEWS (Continued from Page 50)

Edward D. Hicks, Jr., has been named vice president for Plaza Express, Inc., St. Louis.

Edward Latimer has been elected a member of the board of directors of Spector Motor Service, Chicago; **William Reib** to manager of the new perishable division.

Richard Stogsdill has been appointed Indianapolis terminal manager for Interstate Dispatch, Inc., Chicago.

Fred E. Burnham has been elected vice president and controller of the Freuhauf Trailer Co., Detroit.

Joe S. Clark has been appointed Appalachian district sales manager for Mason & Dixon Lines, Inc., Kingsport, Tenn.

Moreland B. Falkell is the new assistant to the director of public relations for Pacific Intermountain Express, Oakland, Calif.

Karl F. Goekel is the new president of the Rochester (N. Y.) Motor Carriers Assn.

J. J. Cunningham, Decatur Cartage Co., Chicago, has been appointed chairman of the National Committee on Accounting of the ATA.

Fred J. Artigues has been appointed district manager at New Orleans for Highway Express, Inc., Memphis, Tenn.

The following promotions and appointments have been made within the Ringsby Truck Lines, Inc., Denver: **William Schrier** has been named sales manager in the Kansas City area; **Fred McCallister,** appointed traffic manager in St. Louis; **Arthur J. Gilmore,** appointed eastern sales manager.

Orville Grimes has been named eastern representative for Watson Bros. Transportation Co., Chicago.

C. J. McCracken has been appointed district manager for St. Louis by Interstate Dispatch, Inc., Chicago.

OBITUARIES

Ray Buckendale, engineering vice-president of Timken-Detroit Axle Co., died unexpectedly of a heart attack in early March. He was 59. Buckendale was a key figure in the truck engineering field and spent more than 40 years in the development of improved truck axles.

John H. Smith, Huntington, W. Va., former president of the West Virginia Motor Truck Assn., died March 8, at the age of 69. He founded the Atlantic Trucking Co. of Huntingdon and played a prominent part in the organization of the American Associations in the mid 1930's.

Martin W. Michie, transportation manager of Geo. A. Hormel & Co., died in February as the result of an automobile accident near Austin, Minn. He was considered one of the nation's top traffic and transportation authorities.

Arthur S. Blanchard, president-treasurer of Blanchard Storage Co., Rochester, N. Y., died recently at the age of 73. He was one of the founders of Allied Van Lines, Inc.

Clarence M. Strong, director of purchases for Gar Wood Industries, Inc., Wayne, Mich., died unexpectedly in Detroit, February 23, at the age of 53. He was active for many years in the Detroit Purchasing Agents Assn.

Charles A. Fitzpatrick, president of Fidelity-20th Century Transportation Co., and vice president of Fidelity Storage & Warehouse Co., Philadelphia, died March 2. He joined Fidelity in 1934, having started in the warehouse business shortly after World War I.

Harry W. Carl, Columbus, Ohio, president of Columbus & Chicago Motor Freight, Inc., died recently at the age of 70. His last major activity was to supervise the construction of the company's headquarters terminal in Columbus.

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Washington DA

(Continued from Page 15)

become available through a stretch-out in the military program. Civilian type hard goods are getting more raw materials beginning with the second quarter.

Stretch-out of the defense program does not mean any let-up in the amount of such goods to be handled, freighted and stored. Defense production is not yet in high gear. It won't be for some time to come. But it does indicate a noticeable increase soon in shipments of strictly non-defense commodities.

Meanwhile, trends in shipping continue to change. A private survey predicts that the shifting to military type production will bring a drop this year of seven per cent in railroad freight volume. Railroad officials agree as to the drop but expect it to be as little as one or two per cent. Railroads continue to drive for rate increases which won't help increase volume. Instead, it may drive more to highway carriers whose business is increasing steadily.

More Hope For Tractor Makers

Better treatment for truck and freight car manufacturers has led to hope that more preference will now be given makers of tractors and allied equipment. National Production Authority had been warned by the industry that on the basis of first half allocations the 1952 production of tractor-mounted equipment needed for mining, construction and similar industries would probably fall 25 per cent short of 1951 production of 48,500 units.

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. . . Dry-Bulk Handling

(Continued from Page 40)

Quarrying Industry

Belt conveyors vs truck haulage is one of the economic problems facing the crushed stone industry. The problem was posed for an industry which produces about 250 million tons per year of crushed stone.

Crusher stone quarries are usually located close to the market because the average price the country-over for this product is roughly $1.80 per ton and transportation costs must be kept to a minimum. All capital expenditures for engineering improvements must be carefully scrutinized with an eye on market trends in the building industry.

Haulage on a horizontal grade can be resolved by stating that the longer the haul the higher the cost per ton-mile for truck operation whereas comparable belt conveyor costs decrease as the distance increases. When an adverse grade is encountered the curve of the cost of truck transportation, plotted against distance, increases more sharply and the belt conveyor cost or distance curve drops more sharply.

At a typical operation, the lower bench is 80 ft below plant elevation and quarry production must be hauled about 750 ft on a 11-per cent grade. A system of track-mounted cars is used operating in balance from a hoist rope passed over a head sheave with the empty returning truck backing the returning car down grade while the loaded truck moves up the slope in front of and in tandem with the other car. Thus the power of the returning truck is used to assist the ascending truck up the grade.

Whether or not belt conveyors can be substituted for trucks, skip hoisting, or other methods, hinges on output tonnage, life of each quarry level, and the amortization period for capital expenditures to make the change.

Belt conveyors obviously require that a sufficient tonnage of rock be handled to be economical. The fact that rock must be crushed to be loaded on the conveyors requires a crusher in the pit. Some trucks are

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. . . Dry-Bulk Handling

(Continued from Page 69)

needed to transport rock from the shovel to the pit crusher. These requirements mean that the cost of operation, maintenance, and amortization of the belt conveyor, the cost of moving the crusher to the pit, plus the cost of operating the trucks must be lower than the previous haulage method for the life of the operating level.

Another problem is the drawing of fine material from bins when excessive moisture causes packing and hang-up in the bins. This material usually ranges between $-\frac{1}{8}$ to 200 mesh. When moisture goes over two per cent, hang-ups occur. Suggested methods of loosening this material so that it will run included vibrators, heaters, air lances, explosives, and the "arch-breaker type" circular bin discharger.

Other suggestions embraced the pneumatic system and other types. The most acceptable was a vibrating conveyor system, which would be partitioned and fully enclosed to prevent circulation of dust.

PROBLEM: Production of ammonium nitrate involves a short cycle in ton quantities. This is produced in a room about 50 ft long and holds eight production vats, each six ft in diameter.

An automatic conveyor system also is desired for this operation. It would move in one direction, where the final product is to be checked and weighed, after which it is sent to the warehouse adjacent to the production room.

The principal problems and considerations for this operation are as follows:

1. The product, as delivered from the kettles, often is accompanied by undesirable hard lumps, which must be removed and returned for reprocessing.
2. The finished product is granular.
3. Discharge opening of the kettles is about 18 in. square.
4. Unloading should be confined to 10 min; the loading cycle within 20 min.
5. Operating conditions require vapor-proof equipment.
6. The finished product is extremely hygroscopic; which must be taken into consideration from the maintenance standpoint, as any residue will collect moisture and accelerate corrosion.

SOLUTION: Many suggestions were offered, among which were pneumatic systems, screw and vibrating types of conveyor systems.

The representative again was most receptive to the vibrating conveyor, saying he had already looked into that possibility. His investigation indicated that labor requirements could be reduced by one or two men over the present system.

Discussion of the application of the vibrating conveyor to this problem disclosed that when the product was dropped from kettle to conveyor, a dust condition arises. It was suggested that the discharge unit be booted under slight negative pressure. ●

(Resume Reading on Page 42)

Washington DA

(Continued from Page 64)

Appeals by the industry have been met to date with the promise that materials would be made available for third quarter production amounting to about 14,500 units. This would be double the second quarter allotment—which may now be increased.

More Carriers Needed For Oil Petroleum Administration for Defense forecasts that in order to adequately handle oil transportation this year it will be necessary to increase the over-the-road fleet of tank trucks by 1558 trucks, 8400 tractors, and 5555 trailers and semi-trailers. This does not take into consideration the replacement of 1800 trucks and tractors and a like number of trailers which will have to be scrapped.

The agency also estimates railroad tank cars will have to be increased by 2000 units for general purposes and another 4700 in pressure type. An additional 4200 general purpose cars will be needed to offset scrappage.

Washington Briefs A two-man mission has been sent to Puerto Rico by the Defense Transport Administration to make a survey of warehousing, transportation and port facilities . . . Similar surveys will be made of other United States territories and possessions.

Several firms in the Miami area, employing about 650 workers, have been authorized by the Defense Production Administration to form a pool known as the Florida Wood Cooperative . . . The idea is to land defense contracts or sub-contracts to make lockers, barrels, boxes, crates, small boats and kindred products. All are woodworking concerns.

First half steel allotments for making steel drums have been on about the same basis as last half 1951 . . . Meanwhile, chances were good for relaxation of restrictions on the uses of reconditioned drums. Inventory controls will not be lifted in the immediate future.

Reports to control officials indicate no shortage of wheelbarrows under present allocation levels although manufacturers report order backlogs of up to two months . . . About 85 per cent of all production goes to industry and other defense requirements.

Production schedules for mining machinery and repair parts were being met during first quarter . . . But producers were not so optimistic for remainder of the year unless materials allotments were to be increased . . . Bearings and parts requiring scarce nickel will be the bottleneck.

Manufacturers report to control officers that they will be able to keep up with orders for reels and spools for wire, rope, cable, and belting during the first half although there is a small order backlog . . . Industry and control officials agree that there will be enough special food carton and paper pail products this year. Demand is expected to be down 10 per cent. •

(Resume Reading on Page 19)

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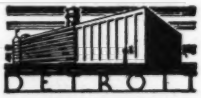

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. . . Delivery Costs

(Continued from Page 24)

cent is from 10,000 to 17,500 lbs., and less than four per cent are over 17,500 lbs. The longest round trip is about 150 miles.

It is highly desirable for any industry to maintain standardized records. This lack complicated our study of wholesale grocery delivery operations. Therefore, as a further aid in compiling accurate information for management decisions, we offer a few suggestions. These are based on the operation records of seven NAWGA members.

These firms vary from less than four million dollars' volume to more than 25 million. For the most part, these firms handle a full line of dry groceries, but some have meats, produce and frozen foods. They include firms which concentrate on large customers only, and firms which have no restriction on order size.

The territories cover the densest metropolitan districts, medium and small cities, suburban areas, rural routes, and the service of affiliated "cash and carry" wholesale branches; also ships' stores export and institutional routes.

From a strict transportation point of view, the study includes big loads, little loads, long hauls, short hauls, city, suburban and country traffic, moderate winters, severe winters, big customers, little customers, straight grocery loads, mixed loads, much backhaul, little backhaul, fair maintenance, limited maintenance, good cost accounting and bad cost accounting.

It has been apparent from the outset that we would have to reduce the accounting records of the wholesale grocery operations surveyed to some common standard if our final report were to serve as a "bogey" for other firms in similar types of service. We were mindful of the great length accountants can go to in refinement, as revealed in hearings on rate cases.

We also were aware that some firms keep no cost accounting records, beyond the financial figures required for tax purposes, because they feel the work entailed isn't worth what it costs. Somewhere between those two extremes, we felt, there was a middle course which we could justify.

Five of the seven operations studied kept a daily drivers' record of trip mileage, hours of service, number of stops, etc. Five kept weights, three by estimate and two by actual weights recorded on invoices for every item.

Since these driver forms are no more complicated than the report taxi drivers make on every fare, we felt there would be general agreement on the basic record, shown in Fig. 1.

All that is required of the driver is that he note the time, place and mileage at each stop. The office can add garage tickets, weight and wage data. Some firms use 5x8 card stock, printed front and back; others use mimeograph stock, 8½x11.

There is no magic in the form. The important thing is to find out where the truck went, what is accomplished and what it cost.

(*Please Turn to Page* 82)

. . . Delivery Costs

(Continued from Page 80)

From the driver's daily report and your financial records, the details of each vehicle's operation are posted to a "Vehicle Performance" monthly record shown in Fig. 2.

At the end of the year, the totals are posted to a cumulative annual performance card, Fig. 3. Here we begin to take the real measure of each vehicle. How much work does it do? How does it stand up under it? Where are its weaknesses? Here, also, we arrive at stable figures on cost-per-mile or cost per cwt for use on our last and final form, Fig. 4.

This we call "Grocery Delivery Performance," because we have left vehicle performance behind us. Here we begin to study how well we manage a transportation system. Note that each route or type of service is charged with a fixed vehicle expense, per hour or per mile, depending on whether it is peddle service or an over-the-road operation.

At this point, where you must decide which routes are profitable and what to do about them if they are not, you do not want a sudden delivery expense fluctuation caused by the garage's tire-buying habits or overhaul practices to upset your calculations.

Management and maintenance must agree on a vehicle expense figure each year which is reasonable in light of past experience. The maintenance staff will try to better it, which is fine but, meantime, grocery operations studies can go forward based on a stable cost figure.

Management will be on firm ground when it begins to drive for better unloading time, better route time or the rescue of a sick route with a backhaul.

Thus far, our report has been primarily concerned with vehicle expense which may, in some houses, represent less than 50 per cent of total delivery cost. We are well aware of the large part of the total represented by wages for drivers and helpers. But we are equally well aware that the right vehicle and the right loading facilities provide one of the sure ways of increasing labor efficiency.

One baking company, for example, cut its truck loading time from 45 minutes to five minutes by developing light trays and racks which could be rolled directly from the production line into waiting trucks. Much additional time also was saved in unloading at branch depots and retail outlets.

We also are aware that a sizable chunk of both wage and vehicle cost is directly responsive to selling policies and warehouse location. A large oil company cut its total delivery cost nearly in half by controlling the size of customers served. Many wholesale grocers have cut their total costs by warehouse relocation and design.

It would not be fitting to close this portion of our report without showing at least one actual case history of fleet savings through Preventive Maintenance.

Chart 4 shows the maintenance history of a large fleet on a cost-per-mile basis. Notice, from the upper graph, that the fleet is averaging around 200,000 miles per month. Notice, from the lower graph, that total

(*Please Turn to Page* 85)

. . . Delivery Costs

(Continued from Page 82)

maintenance cost rose during the early months from about three cents per mile to as much as four cents per mile.

The dotted vertical line near the center of the graph shows that point where a PM system was installed. In the following months, maintenance costs per mile dropped from four cents to a point below two cents per mile—a reduction of 50 per cent.

Contrary to general belief, the cost of labor and the cost of parts did not go up when the maintenance system was installed. Instead, it showed a decline until it leveled off at a point where it is economically practical to maintain the fleet.

The savings of two cents per mile on this 200,000-mile-per-month operation amounts to $4,000 per month or a total of $48,000 per year. That is a saving well worth your attention.

Preventive Maintenance is today the best-known method for economically combating vehicle failures and reducing the number of road delays.

To show the effect of maintenance practices on operating costs, we can use the fuel consumption figures for one of the fleets in the survey, and shown in Chart 5.

It is important that your maintenance men watch fuel consumption very closely. Notice, on the chart, the great range in miles per gallon—from 1¼ miles to more than eight miles. The average is about 4 1/3 miles, but by the very nature of averages, more than half the trucks are below average.

Why? It could be the nature of the service. But suppose it isn't. Suppose it's due to faulty valve adjustment, improper timing, bad carburetion, or faulty ignition.

With today's equipment, it is a relatively simple matter to determine the cause of variations in fuel consumption. Using both the engine analyzer and a dynamometer, you can quickly locate the causes of lost power and high fuel consumption and immediately bring the engine back to top performance both idling and under load.

Remember, the average NAWGA member is a bigger hauler than the average full-time trucking company.

The difference is that on a hauler's operating statement, "Delivery Costs" are up above 90 per cent and on yours, by financial accounting tradition, the same Delivery Dollars show up as one little digit and a couple of decimals.

It's a funny thing about decimals. I know a wholesaler—a very large and successful wholesaler, whose aim is to keep his delivery costs below 1½ per cent of sales. His delivery cost fluctuates, say, from 1.35 to 1.55.

"Not much," you say.

No, it doesn't look like much on a sheet where other figures run into the tens of millions. But, in dollars, that "point 2" difference is $50,000.

Would that swing of $50,000 in delivery expense look any different to you if I said it was the net profit on from $3,000,000 to $5,000,000 in new business?

(Resume Reading on Page 25)

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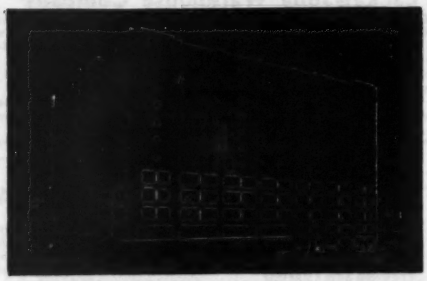

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Within the Law

(Continued from Page 62)

FINANCE

Goods which fall under interstate commerce laws may not be taxed by a state

It has been held that the negotiation in one state of sales of goods which are in another state constitutes interstate commerce. Also, where a purchaser in one state orders goods from one in another state, and the goods are shipped into the state, although with a draft attached to the bill of lading, the transaction is interstate commerce.

A modern higher court has held that merchandise temporarily stored within a state retains its interstate character.

Cases in point: A seller in Louisiana sold merchandise to a purchaser in Oklahoma. The merchandise was shipped from Louisiana into Oklahoma with a draft attached to the bill of lading. This draft was not honored by the purchaser in Oklahoma. The merchandise was stored in a warehouse for a few days until an arrangement for payment was made by the purchaser.

A controversy arose as to whether the merchandise in storage was subject to taxation under the Intangible Personal Property Tax Law of the state of Oklahoma. The court held in the negative, and said: "Notwithstanding the fact that the goods were temporarily stored in this state pending an arrangement for payment, and that there were negotiations within the state after the goods had arrived, we hold that the transaction was one in interstate commerce, and that said negotiations, which related wholly to payment and the temporary storage of the lumber, do not justify the conclusion that plaintiff was doing business in the state." (*Holloway Material & Supply Co. v. Perfection Oak Flooring Co.*, Oklahoma, 130, Pac. (2d) 296.)

In other words, the interstate shipment of the merchandise from the seller in Louisiana to the purchaser in Oklahoma was temporarily stopped without intent or prior arrangement. Hence, the merchandise remained within the scope of interstate laws and was not subject to state taxation.

Imported goods left in the original package are not subject to state taxation

United States statutes provide that no state, county, or city shall tax goods, materials, or merchandise imported and left in the "original package." However, the instant a package is broken the contents are taxable by the state.

Cases in point: A company imported merchandise and sold it in wholesale and retail markets. Testimony revealed that after a shipment was received, from time to time sales were made in smaller packages taken from the original package. Under these circumstances, since the merchandise was not allowed to remain in its original package, the higher court held that the state and county could tax it. (*E. J. Stanton & Sons v. Los Angeles County*, 177 Pac. (2d) 804.)

Further, in another case a company imported towels from Europe. The company stored packages of towels still in the same parcels in which they were wrapped by the foreign manufacturer, but the original large package was broken to obtain these smaller parcels. The Supreme Court of the United States held that the "original package" not subject to state taxation was that in which the goods were shipped to and received by the consignee, and not the smaller parcels put up by the manufacturer and packed in the box shipped by the consignor. Hence, the various smaller packages were taxable as soon as removed from the original box.

This court said: "The 'original package' was the box or case in which the goods imported were shipped, and when the box or case was opened for the sale or delivery of the separate parcels contained in it, each parcel when removed from the box lost its distinctive character as an import and became property subject to taxation by the state as other like property situated within its limits." (*May & Co. v. New Orleans*, 178 U.S. 496.)

On the other hand, while this law pertaining to "original

(*Please Turn to Page* 98)

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Within the Law

(Continued from Page 92)

packages" of imported merchandise is firmly established, yet some higher courts have refused to adopt it as being applicable to goods shipped from one state and stored in a warehouse in another state.

A recent higher court decision in Georgia pertained to merchandise shipped from a seller in New York for storage in a warehouse in Georgia, for and distribution to purchasers in Georgia by the warehouseman. This court held that the merchandise stored in the warehouse was not taxable by the state of Georgia because, before the merchandise was shipped from New York, the seller had made contracts with the purchasers in Georgia who could order out the goods from the warehouse as needed.

If you accept bad check instead of cash for c.o.d. shipment, you may be liable for loss

Recently the following legal question was asked the writer. "We received a written order from a manufacturer, whose stock we warehouse, to ship several cases to a customer in another state, c.o.d., via a particular truck line. We shipped the merchandise on an order bill of lading, intending to draw on the consignee in the name of the manufacturer.

Before this could be accomplished, however, the carrier's driver reached destination with the shipment and, finding that the consignee did not have the original bill of lading, telephoned our office that he could make the shipment c.o.d. We authorized the driver to collect c.o.d., but he accepted the consignee's bank check payable to us. We endorsed this check without recourse and mailed it to the manufacturer located in an adjoining state.

The consignee failed to pay the check. The manufacturer now looks to us for payment on the ground that we accepted from the carrier the consignee's check instead of cash. Are we liable?"

According to a late higher court decision, the warehouse company assumed full liability by accepting the check under these circumstances. If the company had not accepted the check from the carrier, then the latter would have been liable. The fact that the manufacturer designated the carrier is immaterial, since the warehouse company assumed responsibility by permitting the driver to accept the check payable to it.

Cases in point: A carrier was held liable for accepting a worthless check, where the consignor refused to accept it and immediately returned it to the carrier asking for payment in cash. The court said: "The carrier of goods transported c.o.d. is obliged to collect the money from the consignee on or before delivery of the goods to him . . . A shipment c.o.d. of goods contemplates that the carrier will collect the amount specified in cash, and if a check is accepted in lieu thereof, it is done at the peril of the carrier." (*Mogul v. Lewis*, 221 N.Y.S. 391.)

In another case, however, the carrier was held not liable for accepting a worthless check where it was shown that the shipper accepted the check from the carrier. After learning that the check was worthless, the shipper attempted to compel the carrier to pay, but the court held that the shipper must bear the loss. (76 N.Y.S., 376.)

(See Parker's story on "Warehouse Law"—Page 25)

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